

4-4-2018

A Rhythmic Transcription and Spectral Analysis of Luciano Berio's Thema (Omaggio A Joyce)

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A RHYTHMIC TRANSCRIPTION & SPECTRAL ANALYSIS OF LUCIANO BERIO'S *THEMA (OMAGGIO A JOYCE)*

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Music

by

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May 2018

ACKNOWLEDGMENTS

I would like to thank the members of my committee: Dr. Jesse Allison, Dr. Stephen David Beck, Dr. Mara Gibson, and Dr. David Chicoine for their wisdom, time, effort, and especially their encouragement to drive me to be the best composer and academic I can be. I would also like to thank my friends and family for their encouragement and support. I strongly believe no person completes a doctoral program without help from amazing people in their lives. My daughter, Taylor helped me immensely while writing this dissertation by taking care of all the mundane daily chores in our home. I would like to thank my former professors, Mr. William Brent and Mr. Kenneth H. Green without whom, I would not have been set on the path I needed to take nor achieved any of my accomplishments thus far. Finally, I want to give honor and glory to my Lord and Savior, Jesus Christ. By His power and wisdom I have been redeemed and continually transformed into His likeness through the power of the Holy Spirit as I walk, learn, and grow in this world.

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ABSTRACT

Thema (Omaggio A Joyce), composed by Luciano Berio resides within a tempo of 80 beats per minute. The discovery of a constant tempo allowed for a precise rhythmic transcription to be created which found musical structures including large formal sections, subsections, phrases, rhythmic and melodic motives, layers, and dialogue. Analysis of the rhythmic phrases shows that electroacoustic music can have a controlled structure and that these structures earned *Thema* an enduring legacy of masterpiece. The transcription provides a road-map to compare and contrast different elements that reoccur throughout *Thema*. The work was composed with a well thought-out and planned structure that enabled Berio to create, “constant and controlled transformations.” The transcription also reveals events that are specifically composed and events that Berio composed as whole structures rather than each individual note. Having been inspired by James Joyce’s “experimental use of language and exploration of new literary methods” in *Ulysses*, Berio extends Joyce’s exploration of subject, counter-subject (fugal counterpoint), development, sibilants and plosives, and white noise.

CHAPTER 1. INTRODUCTION

Luciano Berio (1925-2003) was an Italian-born composer most noted for his virtuosic solo pieces titled *Sequenza I-XIV* (1958-2002), *Sinfonia* (1968-69), and his work in electronic music. He studied music composition at the Milan Conservatory and the Berkshire Music Festival in Tanglewood. While attending the Milan Conservatory, Berio met his future wife Cathy Berberian. She was an American mezzo-soprano and composer. Berberian performed a selected reading from James Joyce's novel *Ulysses*, which is the source material for *Thema (Omaggio a Joyce)*. Berio attended a concert at the Museum of Modern Art in New York in 1952 while studying at Tanglewood. This is where he first heard tape music.¹ In 1955 Berio and Bruno Maderna established the *Studio di Fonologia Musicale* (Musical Phonology Study) at the RAI (Italian Radio & Television). Berio and Umberto Eco collaborated to broadcast a radiophonic documentary called "Omaggio a Joyce Documenti sulla qualità onomatopeica del linguaggio poetico" (Documents on the Onomatopoeic Quality of Poetic Language). Although the program was never broadcast, Berio had composed a work titled *Thema (Omaggio a Joyce)* in 1958-59.

Thema (Omaggio a Joyce) is an electroacoustic composition. The recorded voice material is an interpretive reading of a section of the poem "Sirens" in the eleventh chapter of James Joyce's *Ulysses* which was published in 1922. Joyce (1882-1941) was a novelist of Irish descent best known, "for his experimental use of language and exploration of new literary methods in such large works of fiction as *Ulysses* (1922) and *Finnegans Wake* (1939)."² *Ulysses* is a parallel

¹ Osmond-Smith, David. *Luciano Berio, two interviews*. London: Marion Boyars, 1981. 169

² James Stephen Atherton, "James Joyce," Encyclopædia Britannica, January 12, 2018, Accessed March 30, 2018, <https://www.britannica.com/biography/James-Joyce>.

to Homer's *Odyssey* and is famous for the stream-of-consciousness technique. David Punter notes, "Joyce thereby seeks to replicate the ways in which thought is often seemingly random and there is no possibility of a clear and straight way through life, and by doing so he opened up a whole new way of writing fiction that recognized that the moral rules by which we might try to govern our lives are constantly at the mercy of accident, chance encounter, and byroads of the mind." Punter also notes that, "Some scholars regard this classic as a masterwork of Modernism, while others hail it as the pivotal point of Postmodernism."³ The story takes place in Dublin, Ireland in 1904. The book is structured with every chapter symbolizing a human organ and is dedicated to an Art. The eleventh chapter symbolizes the ear and is dedicated to Music. Joyce comments on the writing of this chapter,

I finished the Sirens chapter during the last few days. A big job. I wrote this chapter with the technical resources of music. It is a fugue with all the musical notations: piano, forte, rallentando, and so on. A quintet occurs in it, too, as in *Die Meistersinger*, my favorite Wagnerian opera...⁴

Joyce also employs onomatopoeia such as the "jingling" of Boylan's keys and the "tap tap tapping" of the blind tuner (see Appendix B). These events take place in the Concert Room Saloon in the Ormond Hotel where Leopold Bloom (distracted by the jingling keys) meets Richie Goulding (distracted by the piano) for a meal. Barmaids represent the "Sirens" from the *Odyssey*. Elizabeth Legris notes, "Bloom is given myriad opportunities to halt his journey homeward and stay with any of these women, but he, like Odysseus strapped to the mast, is bound for home."⁵

³ David Punter, "Ulysses," Encyclopædia Britannica, February 05, 2018, Accessed March 30, 2018, <https://www.britannica.com/topic/Ulysses-novel-by-Joyce>.

⁴ Richard Ellman, *James Joyce*, (Oxford: Oxford University Press, 1983), 459.

⁵ Elizabeth Legris, "The Sirens", Yale Modernism Lab, Accessed March 28, 2018, <https://modernism.coursepress.yale.edu/the-sirens/>.

Berio discusses his fascination with Joyce's "experimental use of language" and transformation of musical concepts into literature in an interview conducted by Bálint András Varga,

Without Eco *Thema (Omaggio a Joyce)* wouldn't exist. Both of us were fascinated by onomatopoeia in poetry and after having gone through Italian literature, we addressed Joyce. The eleventh chapter of *Ulysses* is a triumph of onomatopoeia. Joyce employs a different technique in each chapter and since this one is devoted to music, his musical reference is the fuga per canonem. This is of course impossible to realize with a written text, in the original sense of the term: it is a kind of generalized metaphor. But even so there is a subject, a counter-subject, a development, there are stretti - and different performing techniques, too, such as trills, glissandi, and so on. We only concentrated on the beginning of the chapter (the exposition of the fugue), up to the "cadenza" where everything becomes saturated by s, a kind of cadence of white noise.⁶

In *Thema*, Berio extends Joyce's exploration of subject, counter-subject, development, sibilants and plosives, and white noise. *Thema* is a work of Musique concrète, an experimental technique of music composition using recorded sounds as raw material. This technique was first developed around 1948-49 by Pierre Schaeffer and later expanded upon at the Groupe de Recherche de Musique Concrète (GRMC) in the French Radio Institution.⁷ Berio uses tape techniques such as: filtering, echo, modulations, change of speed, and mixing different tape fragments to produce *Thema*. The entirety of the work is 8:09. However, the first 1:58 is a straight-forward reading by Berberian. The poem was read in English, French, and Italian. Berio explains, "Using this triple source, 'liberates' the potential music of the text by converting the words gradually into music. This is achieved by submitting [the sound] material to [tape studio] transformation and

⁶ Osmond-Smith, 142-143.

⁷ The Editors of Encyclopædia Britannica, "Musique concrète," (Encyclopædia Britannica. December 05, 2007), Accessed November 29, 2017, <https://www.britannica.com/art/musique-concrete>.

superimposition in a context of continual evolution.”⁸ He also notes, “I was interested in constant and controlled transformation from discontinuous to continuous patterns, from periodic to non-periodic events, from sounds to noise, from perceived words to perceived musical structures, and from syllabic to a phonetic view of text.”⁹

The previously published literature on *Thema* primarily involves discussions on the underlying philosophies of creating the composition itself, analysis of the phonetic transformations from text into music, and discussions of the technology used to create the piece. These works of analysis most often contain linear time graphs to depict phonetic “sound events.” Using time graphs is a standard method of depicting sound events in works of electroacoustic and electronic music when a score is not produced. Luciano Berio created a graphical excerpt of *Thema* in his article, “Poesia e musica, un’esperienza” (Poetry and Music an Experience) as seen in Figure 1.1.¹⁰ Marvin Lee Lamb followed in “The Musical, Literary and Graphic Influences Upon Luciano Berio’s *Thema, Omaggio a Joyce*” (Figure 1.2).¹¹ Emily Snyder Laugesen also created a linear time graph in, “Construing Text as Music in Berio’s *Thema (Omaggio a Joyce)* and Stockhausen’s *Stimmung*” (Figure 1.3).¹²

⁸ Luciano Berio, *Thema Omaggio a Joyce*, Limelight phonograph recording 86047.

⁹ Barry Schrader, *Introduction to electro-acoustic music*, (Englewood Cliffs, NJ: Prentice-Hall, 1982), 179.

¹⁰ Luciano Berio, 1959, “Poesia e musica, un’esperienza,” *Incontri Musicali*, 111.

¹¹ Marvin Lee Lamb, *The Musical, Literary And Graphical Influences Upon Luciano Berio's Thema, Omaggio A Joyce*. PhD diss., University of Illinois Urbana-Champaign, 1977, (Ann Arbor, MI: University Microfilms International, 1979), 18.

¹² Emily Synder Laugesen, *Construing Text as Music in Berio's Thema (Omaggio a Joyce) and Stockhausen's Stimmung*. PhD diss., (Columbia University, 2003. Ann Arbor, MI: ProQuest, 2008), 159.

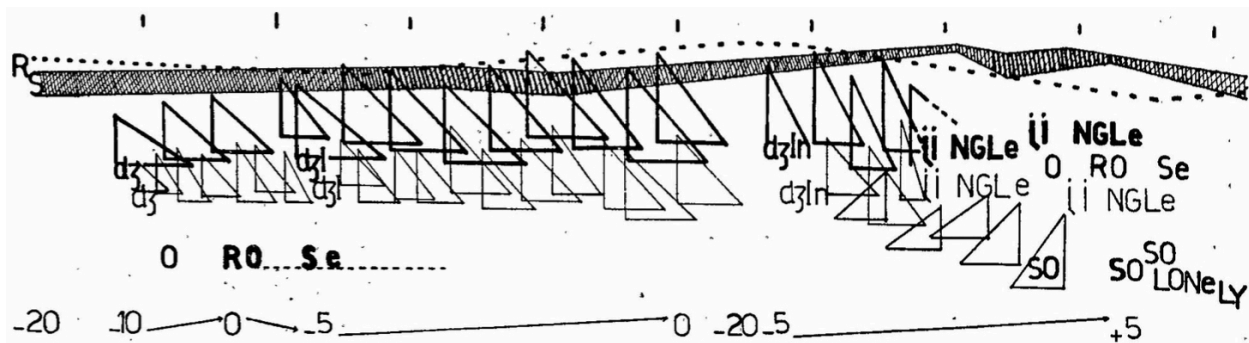


Figure 1.1. Luciano Berio's linear time graph fragment of *Thema*

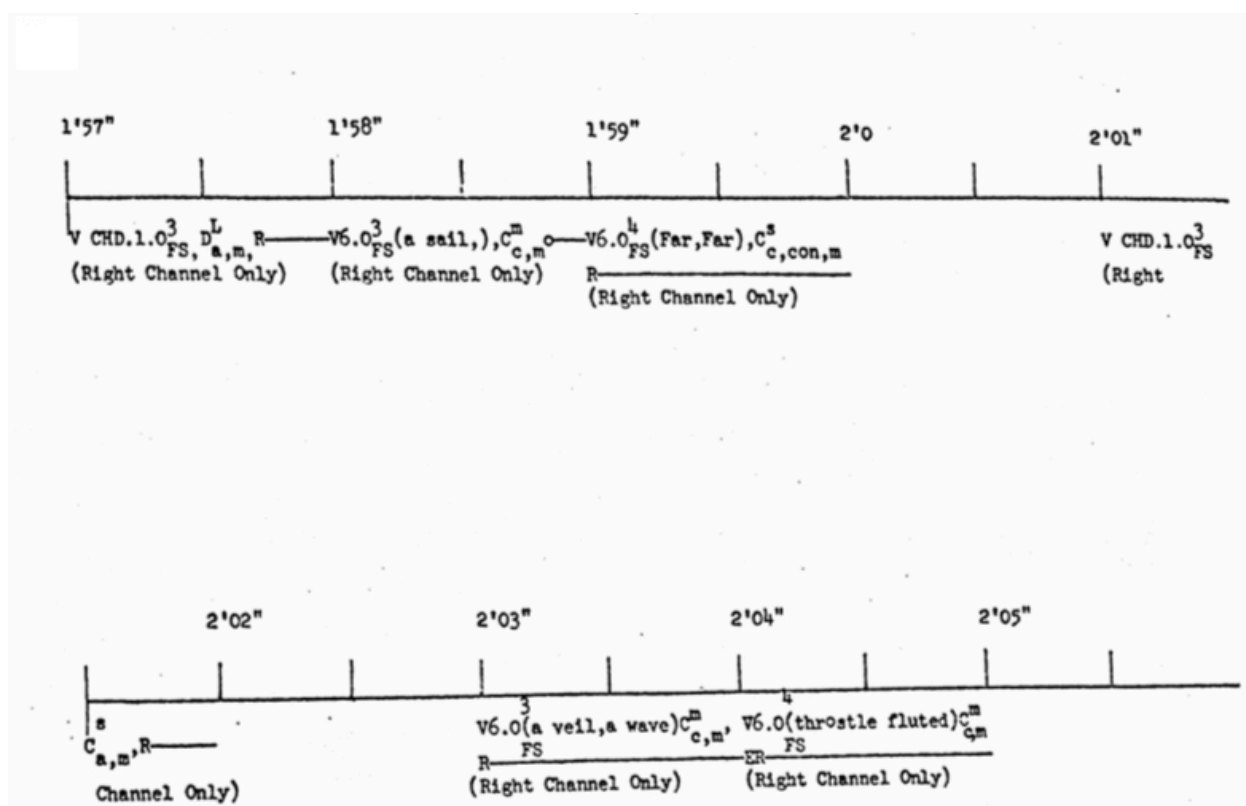


Figure 1.2. Marvin Lee Lamb's linear time graph fragment of *Thema*

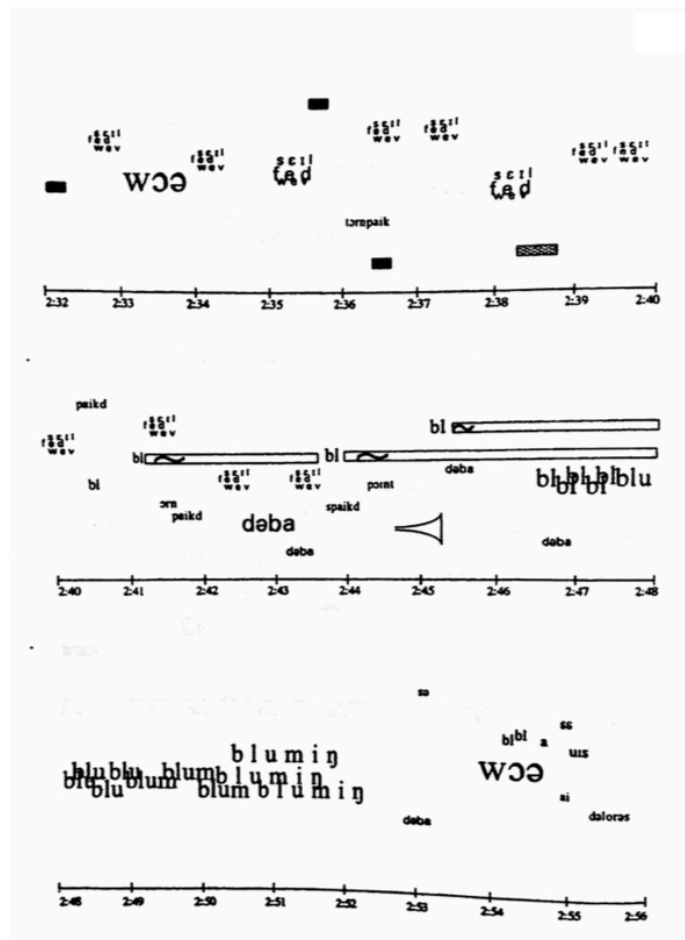


Figure 1.3. Emily Snyder Laugesen's linear time graph fragment of *Thema*

Another method of formal analysis is dividing musical works into sections such as binary and ternary. Lamb asserts that *Thema* exists within a binary form with a Coda.¹³ Kelly Nogueira Marques determines *Thema* to be in a ternary form in “The Influence of Studio Techniques on *Thema* - Omaggio a Joyce (1958) and *Laborintus 2* (1965) by Luciano Berio.” Marques does not describe the third section as a Coda.¹⁴ Emily Laugesen breaks *Thema* into six sections.¹⁵ Berio

¹³ Lamb, 64.

¹⁴ Kelly Nogueira Marques, A influência das técnicas de estúdio nas obras "Thema - Omaggio a Joyce" (1958) e "Laborintus 2" (1965) de Luciano Berio, (Lisboa: Universidade Nova de Lisboa, 2013), 29.

¹⁵ Laugesen, 125-126.

implied that there might be an even deeper level of analysis available. As previously mentioned, he discussed converting words gradually into music with constant and controlled transformations; from perceived words to perceived musical structures.¹⁶ His use of converting words into perceived musical structures implies a narrower scope of detail in composing *Thema*. In his article, “Poesia e musica, un’esperienza” Berio said, “In the case of the French phrase with a regular rhythmic structure that continuously modulates continuous sounds derived from the text in English...”¹⁷ Berio is defining the spoken word as containing a “regular rhythmic structure.” He also said, “... it is precisely the observation of this continuity that made it possible the conception of musical forms linked to the qualitative evolution of the material.”¹⁸ Kelly Marques reinforces this concept of spoken words being transformed into musical forms like rhythm by observing, “Berio uses the text as rhythmic cells, the text is immediately translated into rhythmic values, into musical values.”¹⁹ The musical values are the fugal subject and counter subject (counterpoint) that Joyce inspired Berio to explore (discussed later).

The concept that rhythms exist in *Thema* opens an entirely new and deeper level of analysis far beyond large scale form but rhythm only has meaning within the context of a tempo. A literature review did not produce any comments that Berio had composed *Thema* in a specific tempo and if rhythms did occur they could merely exist in snippets of sections where tempo is imposed for but a brief moment. However, in “Aesthetic and Technological Aspects In Berio’s

¹⁶ Schrader, 179.

¹⁷ Berio, “Poesia e musica, un’esperienza,” 108.

¹⁸ Berio, “Poesia e musica, un’esperienza,” 108-109.

¹⁹ Marques, 38.

Thema (Omaggio A Joyce)” Nicola Scaldaferrri notes that, “Berio’s compositional process in electroacoustic works is very analogous to his compositional process for traditional instruments...”²⁰ Scaldaferrri also didn’t mention tempo in his article but this comment suggests the possibility of *Thema* existing in a far more controlled environment than previously recognized. Berio, himself said, “constant and controlled transformation.”²¹ The following chapters will explore the theory that *Thema* exists within a specific tempo and because so, a rhythmic transcription could be made. The transcription offers a new level of analysis and understanding of a work that has been accepted as a masterpiece within the musical community.

²⁰ Nicola Scaldaferrri, "Aesthetic and Technological Aspects of Berio's "Thema (Omaggio a Joyce)," (*Science, Philosophy and Music:2002*), 207-215.

²¹ Osmond-Smith, 142-143.

CHAPTER 2. METHOD OF EXPLORATION

The first steps of exploration involved listening to the work and determining that the sound events, usually depicted by linear time graphs, actually sync with a constant tempo. At 80bpm (beats per minute) a large portion of the sound events fall on downbeats; especially after long pauses. A spectrogram was generated by importing an audio recording of *Thema* into a computer program titled, *Audacity* (digital audio workstation) seen in Figure 2.1. A spectrogram is a graphic representation, produced by a sound spectrograph, of the frequency, intensity, duration, and variation with time of the resonance of a sound or series of sounds.²² Pasquale Citera published his version of *Thema* in spectrogram form on Youtube in 2016.²³

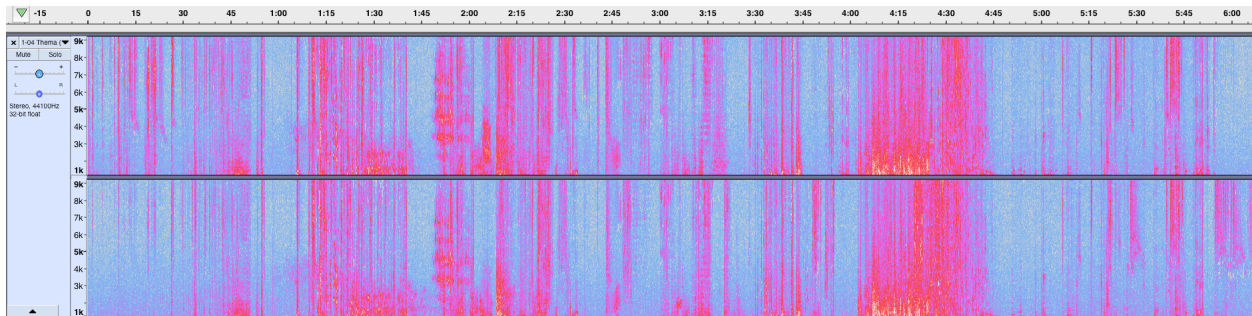


Figure 2.1. Spectrogram of *Thema* (*Omaggio a Joyce*)

Another spectrogram of a metronome at 80bpm imported into the same file in Audacity offers a visual comparison (Figure 2.2).

²² "Sound spectrogram," Dictionary.com, Accessed November 29, 2017, <http://www.dictionary.com/browse/sound-spectrogram>.

²³ Citera, Pasquale. "Luciano Berio : Thema - Omaggio a Joyce." YouTube. February 04, 2016. Accessed March 30, 2018. https://www.youtube.com/watch?v=jV_76OZSsqo&t=101s.

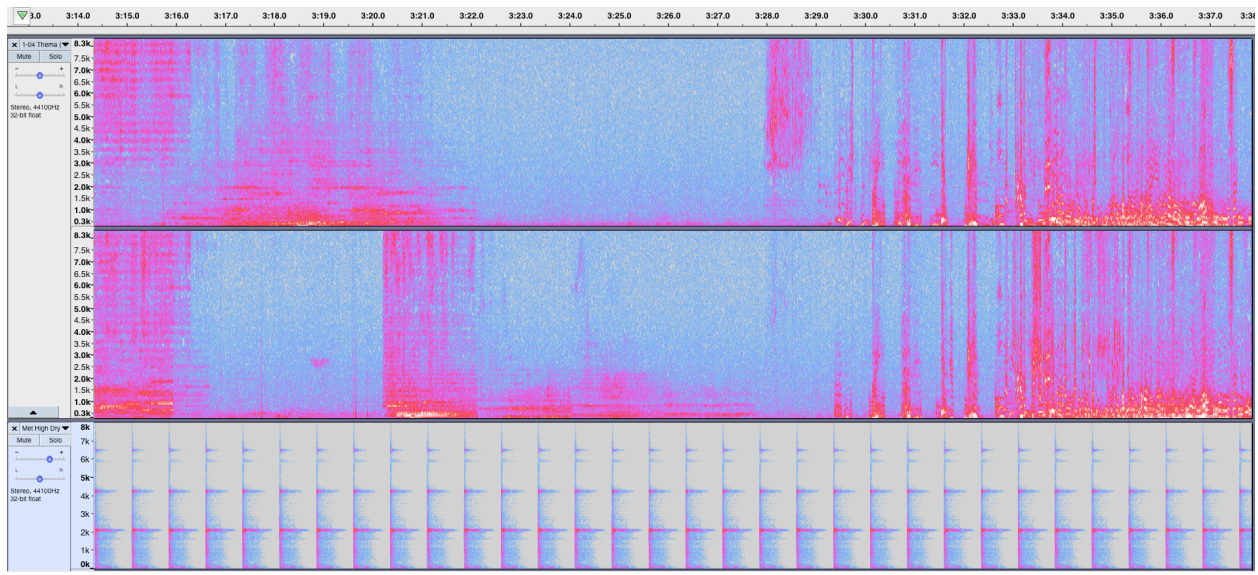


Figure 2.2. Spectrogram of both *Thema* and a metronome imported into Audacity

Figure 2.2, starting close to 3:14 and ending at approximately 3:38, is a representation of how well the sound events coincide with downbeats throughout the entire work. The next figure shows another segment of time, from 3:28 to 3:50. In Figure 2.3 there are 14 event markers representing significant sound events that coincide with the metronome track's downbeats. Marker #4's sound event begins before the downbeat. Interestingly, the "climax" of these moments falls squarely on the downbeat. Markers #5, #7, #8, #9 and #14 also exhibit this phenomenon. It is unlikely that the climax of these events occurring on the downbeat is a characteristic left to chance.

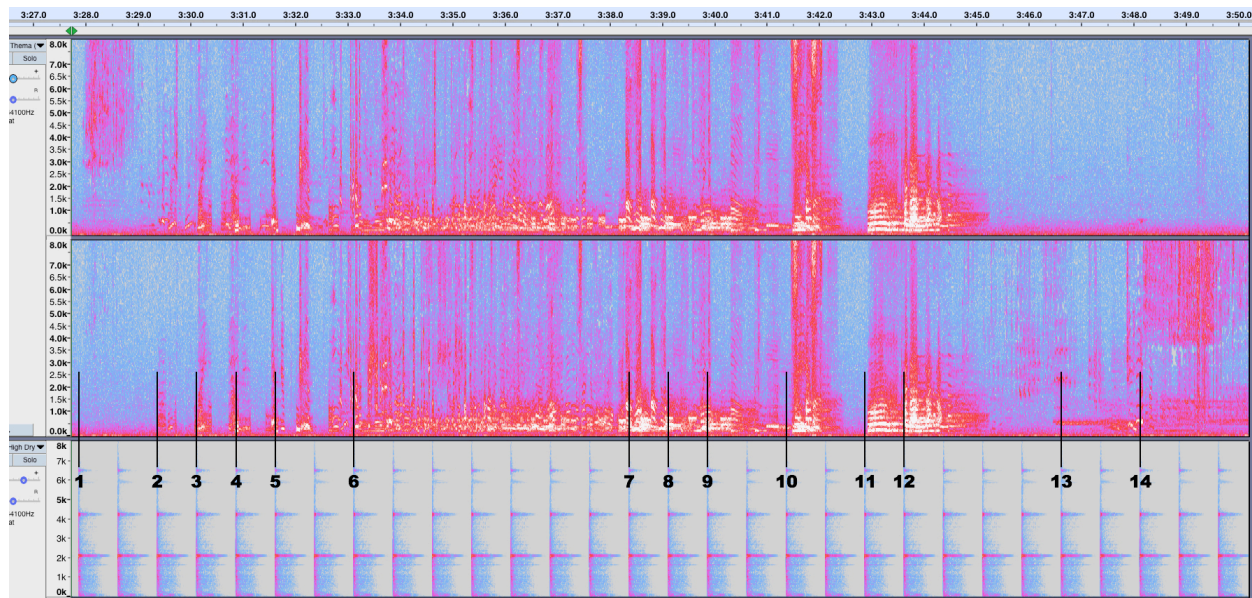


Figure 2.3. Spectrogram of major sound events and metronomic beats syncing in *Thema* from 3:28-3:50

Discovering that *Thema* exists within a constant tempo creates questions as to whether the work could be rhythmically transcribed and used in a meaningful analysis. The sound events were found to exist mostly in two layers. Layer 1 is for the most prominent sound events that make up the foreground. Layer 2 is for events that sound in the background. These two layers relate to Joyce's fugal structure in "Sirens" and provide Berio a means to explore musical subjects and counter subjects. There are a few places where three layers can be heard which will be discussed in the following chapter. Musical form notation using letters mark both large sections and small subsections. The large sections are marked by capital letters in boxes. Smaller subsections are denoted by lower case letters. Time codes were added at these points since the work was not originally composed using notation. The time code is based on the very first sound event in *Thema* and does not include any silence that might be found at the beginning of a recording also known as pre-gap. The time code does not include Cathy Berberian's straight-

forward reading of “Sirens.” The transcription does not include the final fifteen seconds of silence found on the original recording.²⁴ Since this is a rhythmic analysis, there is no reason to account for that segment of silence in the score. Also note, the authorized version of *Thema* bought on *iTunes*, and used in the analysis does not include the fifteen seconds of silence.²⁵ Accents, slur lines, and decrescendos, were used when it aided in identifying the sound events occurring in the work. “P” means pickup. “S” means complete silence. “Prep” means preparation. Time signatures were determined based on the interpretation of where phrases began and ended and will be further discussed in the next chapter. The use of even-tempered pitch names and concepts of western tonality will be discussed but pitches will not be represented on a staff because the sounds being analyzed do not fit perfectly within the even-tempered system. Sound events, phrases, and sections are described with words like: gesture, emerge, disappear, deep, shallow, continuous, calm, and extreme; which are drawn from a reading of Adrian and David Moore’s *Sonic Art: Recipes and Reasoning* on how to describe works of electronic music. An excerpt of the transcription can be seen in Figure 2.4 below, and the entire work can be found in Appendix A.

²⁴ Lamb, 65.

²⁵ Luciano Berio. "Thema (Omaggio a Joyce)." In *An Anthology of Noise & Electronic Music*, Vol. 7. Sub Rosa, 2002, MP3.

Thema Omaggio a Joyce

A Rhythmic Transcription

Luciano Berio
Trans. Christopher McCardle

♩ = 80
Prep

Layer 1

Layer 2

A a 0:01.475 P

S

5

Lyr. 1

Lyr. 2

6 b 0:17.985

9 c 0:26.231

10

15

15

Figure 2.4. Rhythmic transcription excerpt of *Thema*

The rhythmic transcription was exported from Finale (a music notation software) to audio and then imported into Audacity in order to generate a spectrogram. The spectrograms of *Thema* and the transcription were compared and found to align with enough precision to support the accuracy of the transcription (Figure 2.5). The following chapter will discuss the musical analysis of the transcription as it relates to Berio's endeavor to create constant and controlled transformations.

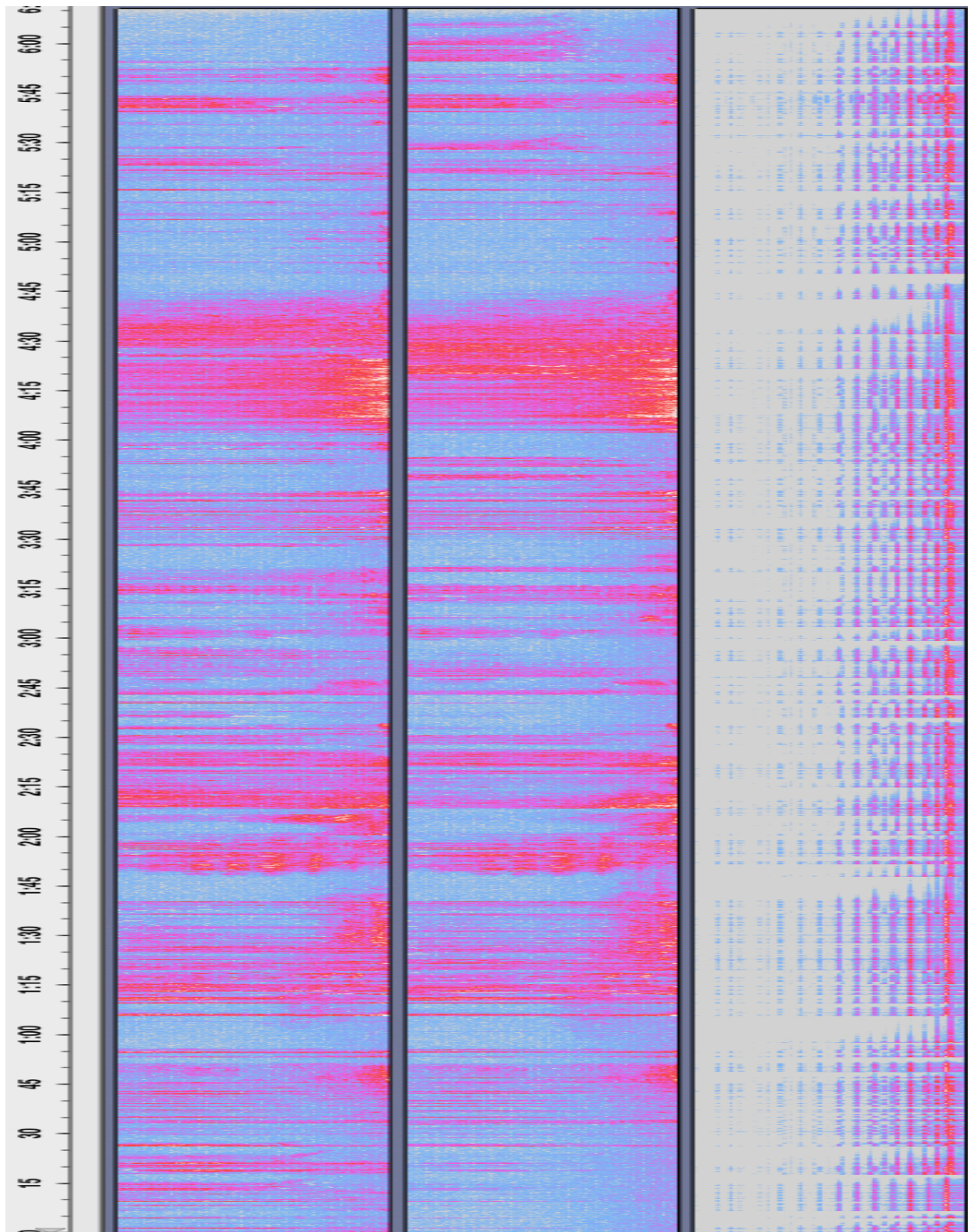


Figure 2.5. Spectrogram of *Thema* and the rhythmic transcription

CHAPTER 3. MUSICAL ANALYSIS

A cursory glance at the transcription presents a well thought-out work with consistent rhythmic structures within each form. The work is divided into four main Sections, A-D, and fourteen subsections, a-n. The corresponding beginning time code can be seen underneath each subsection as well as measure numbers in Figure 3.1. The form depicted here is a departure from all three previously reviewed dissertations belonging to Lamb, Laugesen, and Marques. More discussion about this departure can be found at the end of the chapter.

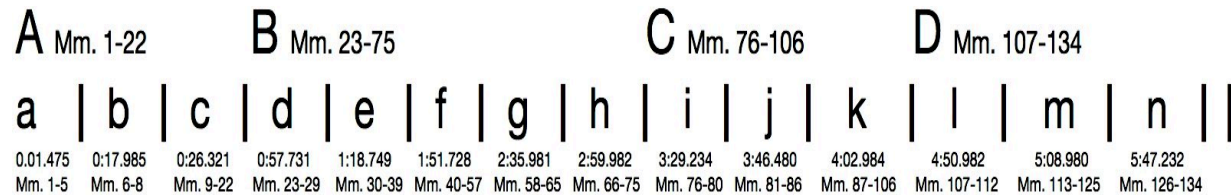


Figure 3.1. *Thema* four-part form

“Preparation” is the word best used to describe the unfolding of this entire work. Preparing the listener for each section, both large and small, is undoubtedly a key compositional technique Berio used. The work begins with a two-beat preparation. The very first sound event is unintelligible but the upbeat of beat one in measure #1, layer one can be understood as “feel.” The transcription begins with a two-beat preparation. The justification lies with Berio choosing to make very few moments of Berberian’s speech intelligible. “A sail” can be heard starting on the fourth partial sixteenth note (1-e-and-“a”) on beat four to the down beat of measure 1 seen in Figure 3.2. Berberian’s rhythmic interpretation of shortening the “a” and placing emphasis on “sail,” and Berio choosing that moment to fall on a metronomic downbeat gives credence to the

the work beginning with a pickup. This decision is further reinforced by Berio's use of preparatory material before almost every section and subsection throughout the work.

The A section is best described as introductory with three short subsections that lay the foundation for the rest of *Thema* and culminate in the "blooming" sound event which prepares for subsection e in Section B. The texture in this opening subsection is sparse. "A" and "sail" are repeated in measures 1 and 2. A pickup can be seen in measure two on beat four when Berberian says "a veil" and then the word "a-wave" on beat one of measure three (Figure 3.2). The pickup rhythm is used frequently within the work and as transitory material. Rhythms do not always perfectly line up with the tempo when *Thema* contains a mostly unedited snippet of Berberian's recitation. Berio utilized Berberian's artistic interpretation in regards to rhythm within the framework he devised and always brings the work back to 80bpm by lining up successive sound events on downbeats (a discussion regarding this can be found in the following chapter). In some instances, Berio lines up Berberian's recording based on the singing technique of starting the consonant of a word slightly early so that the elongated vowel would fall on a downbeat. This is especially the case with the "s" sibilant sound which is a key motive throughout *Thema*²⁶. The decision was made to transcribe "s" sibilant events in their exact rhythmic placement when they are used as sound events and not sound-text events. If the "s" sibilant was part of a spoken text, then the rhythm was determined based on the location of the vowel. Measures 3-5 continue to use various English-version texts from "Sirens" but in no coherent manner as it relates to the poem. Recordings of text from the poem being used so far are: sail, veil, wind, throstle, fluted,

²⁶ Laugesen, 132.

spiked, winding, cold, and silent (see Appendix B). Measure 5 contains the “s” sibilant sound event without relation to text, so the rhythm was transcribed to be at the initiation of the sound.

Another pickup note is found at the end of measure 5 leading into measure 6 that begins subsection b (Figure 3.2). This second subsection is very short but contains a text that will be heard later in the work, “so lonely.” Much of the work and this subsection focuses on the “s” sibilant which is an onomatopoeic reference to wind. The subsection ends with a 5-beat hiss. This serves as a transition/preparation because the next sound event is the loudest and most abrupt at measure 9 since the beginning of the work (Figure 3.2).

Figure 3.2. *Thema* transcription measures #1-8

Subsection c begins at measure 9 and transitions the listener from intelligible text to unintelligible sounds. In measures 10-15, the word “sail” might be mistaken for something else if it had not already been heard so clearly at the beginning. These measures focus on two sound events in a percussive and fugal counterpoint dialogue (Joyce) seen in Figure 3.3. Layer one in

the foreground is the text “sail(s).” Layer two focuses on the “s” sibilant which is used like a hi-hat cymbal on a drum set keeping time in the background. Because these particular measures focus on the percussive nature of both “sails” and “s,” the decision was made to break the rule that text should be transcribed focusing on the vowel and not the starting consonant. The word “sails” in layer 1 in measure 10 is an example of how Berio started the consonant “s” sibilant early so that the vowel would land on beat three.



Figure 3.3. *Thema* transcription mm. 9-15

The density of the work increases in the c subsection and ends with a very interesting sound event in measures 18-19. In measure 17 the decision was made to represent the foreground sound in layer one as a dotted half note because there are no clear rhythms. The interpretation is that Berio’s intention was to create a “sustained sound” event. However, this phrase ends with the famous “blooming” event which evolves from a sustained sound event into an intelligible word. The transcription provided a unique insight that showed this was a result of a metric deceleration as seen in figures 3.4 and 3.5. The accents in measure 19 highlight the stressed and unstressed emphasis placed on the sound event as the text “bloo-ming” is heard. In considering this metric deceleration and augmentation of “blooming”, Emily Snyder Laugesen notes, “There is a semantic motivation for making the blooming event bigger: *blooming* connotes

growth, fullness, and expansion...”²⁷ Subsection c briefly transitions from a sibilant “s” motive to a plosive “b” motive.

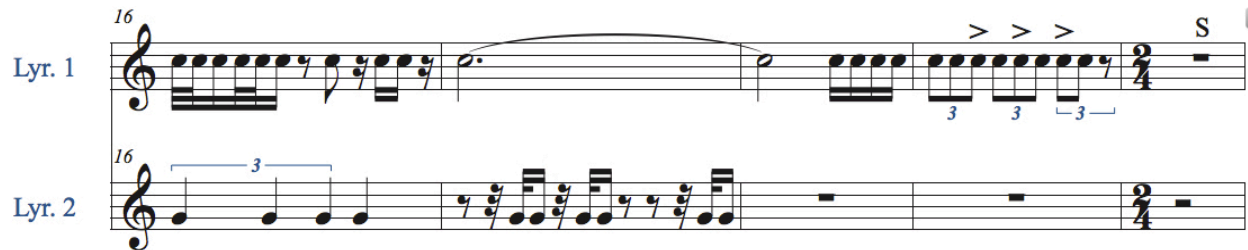


Figure 3.4. *Thema* transcription mm. 16-20

Figure 3.5 has three components. The top two lines are a stereo spectrogram of *Thema*. The next two lines are mono spectrograms of the transcription and the metronome (to save space). Just before 0:43 is the beginning of measure 16. The spectrogram highlights the density and quality of the “sustained” sound starting at measure 17. Measures 18 into 19 involve the “blooming” event which is notated in Figure 3.4.

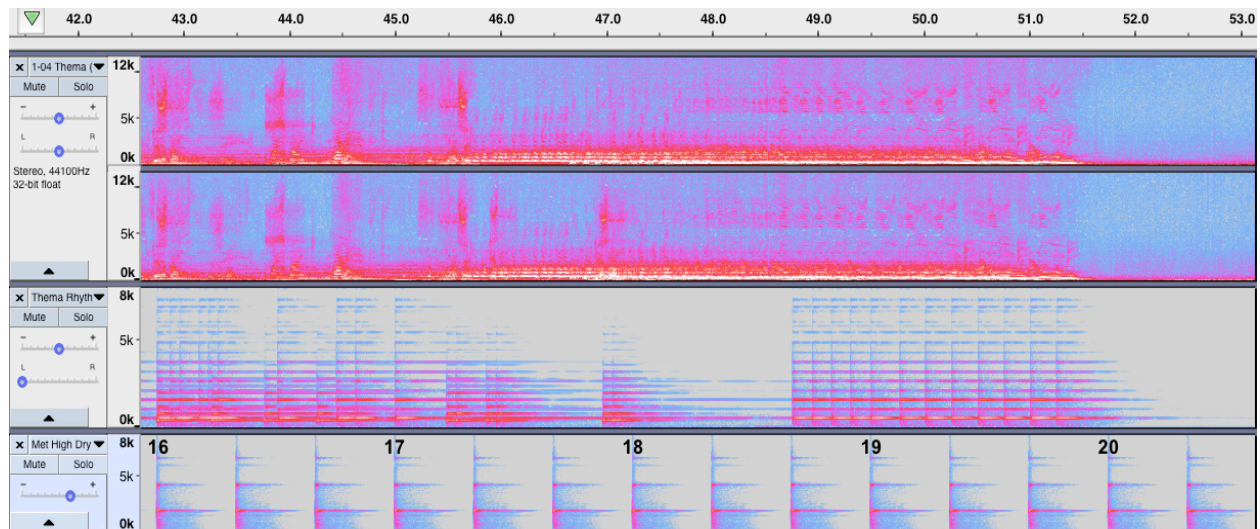


Figure 3.5. *Thema* spectrogram mm. 16-20

²⁷ Laugesen, 131.

Measure 20 is complete silence. This is an uncommon occurrence. Silence throughout *Thema* typically serves as a transition/preparation from one subsection to another. This is the end of the introductory A section. The three short subsections have introduced intelligible and unintelligible text, rhythmic pickup gestures, percussive dialogue, the use of sibilants and plosives as thematic material, and evolving drones (all of these elements will be further developed in Section B).

The B section can be described as swirling drones underneath loud, abrupt sound events that include “s” sibilant gestures, unintelligible sounds, and a few moments of understood text. More importantly are subtle moments of tonality that creep in beginning in subsection e and continue to evolve through f and into subsection g. The last subsection (h) culminates in the full transformation of prior themes.

Berio remains consistent in compositional form by providing another short transitory motif in measures 21 and 22 that is akin to the two-beat opening of *Thema*. These measures provide transition into the B section, subsection d at measure 23 (Figure 3.6). This motif is based around the continued use of pickup gestures and serve as preparation for two more pickup gestures in measures 25 and 26.

The image shows a musical score for two parts, Lyr. 1 and Lyr. 2, spanning measures 21 to 26. Measure 21 is marked with a '21' and 'Prep' above the staff. Measure 23 is marked with a green box containing 'B' and '23' and 'd 0:57.731' below it. The score features various time signatures: 4/4, 3/4, 5/4, and 4/4. Lyr. 1 has a treble clef and Lyr. 2 has a bass clef. The notation includes notes, rests, and pickup gestures.

Figure 3.6. *Thema* transcription mm. 21-26

Section B officially begins at measure 23 with a high pitched drone event on the downbeat which is the first time this texture is used and becomes a unifying force throughout the B section. The drone is juxtaposed by loud and abrupt events which can be seen in Figure 3.7 as a pickup into measure 26, a pickup into measure 27, and another “e - + - a” pickup figure leading into measure 28. These events had been prepared by the transitory material in measures 21-22.

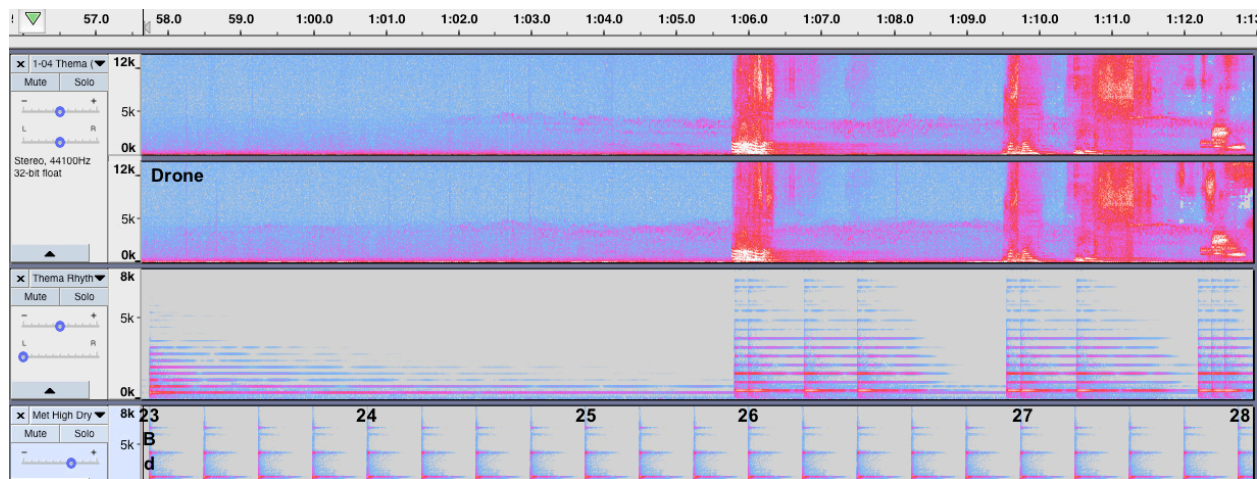


Figure 3.7. *Thema* spectrogram mm. 23-28

Measure 30 begins subsection e with a fairly static texture of continuing loud, abrupt events while drones of different textures swirl in the background. The drones slowly descend in indeterminate pitch from the beginning of Section B (subsection d) through the end of subsection e at measure 38. The loud sound events in subsection e are unintelligible texts. The focus is now on the plosive consonants of “b” and “t.” This is a shift from the “s” sibilant as was prepared by the “blooming” event from subsection c. The plosives are reinforced by a sound event- “ba-ba”

that occurs in measures 30 and 35. A decrescendoing drone ends this subsection abruptly in measures 37-38. (Figures 3.8 and 3.9).

Figure 3.8 shows the musical score for 'Thema' subsection e, measures 30-38. The score is in 2/4 time, starting at 1:18.749. It features two staves: Lyr. 1 and Lyr. 2. Lyr. 1 contains vocal lines with lyrics 'ba ba' and 'to to ba ba ba ba'. Lyr. 2 contains a drone line. The score includes triplets and a decrescendoing drone in measures 37-38.

Figure 3.8. *Thema* transcription subsection e, mm. 30-38

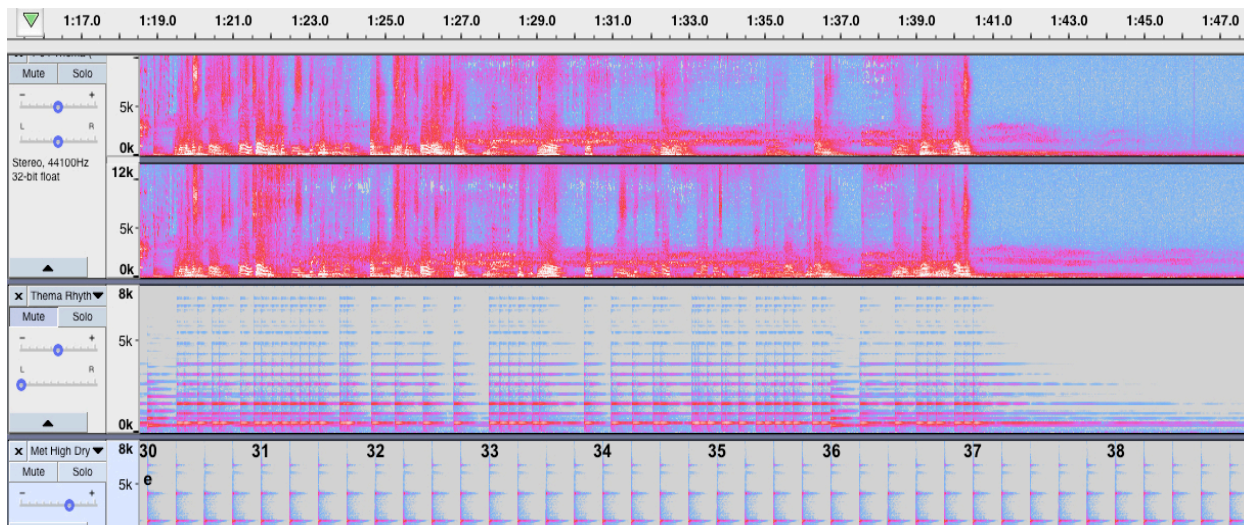


Figure 3.9. *Thema* spectrogram subsection e, mm. 30-38

Measure 39 introduces a high pitched drone (exactly on the downbeat) of similar quality from measure 23 and alerts the listener to prepare for another section of drones and intermittent loud events. The beginning of subsection f is at time code 1:51.728 and measure 40. The first two measures have more lively sound events in terms of rhythmic density than previous moments (Figure 3.10). This subsection shifts the motive back to sibilants. Measure 40 is an example of how some events that can be heard with the ear do not always present themselves clearly on the spectrogram. The sibilant “ch” can be heard to start on the downbeat but its decibel level does not yet meet the threshold of a more intense color. Measure 41 is another example of Berio initiating the sound just before the downbeat. The actual text is unintelligible but it sounds as if a “w” consonant is being initiated. The spectrogram for both *Thema* and the transcription offer a good visual view of these events as well as the continued accuracy of the piece existing at 80 bpm. Measure 42 contains another of the famous intelligible texts- “so lonely” from “Sirens” line 32.²⁸ This is shown in Figure 3.11.

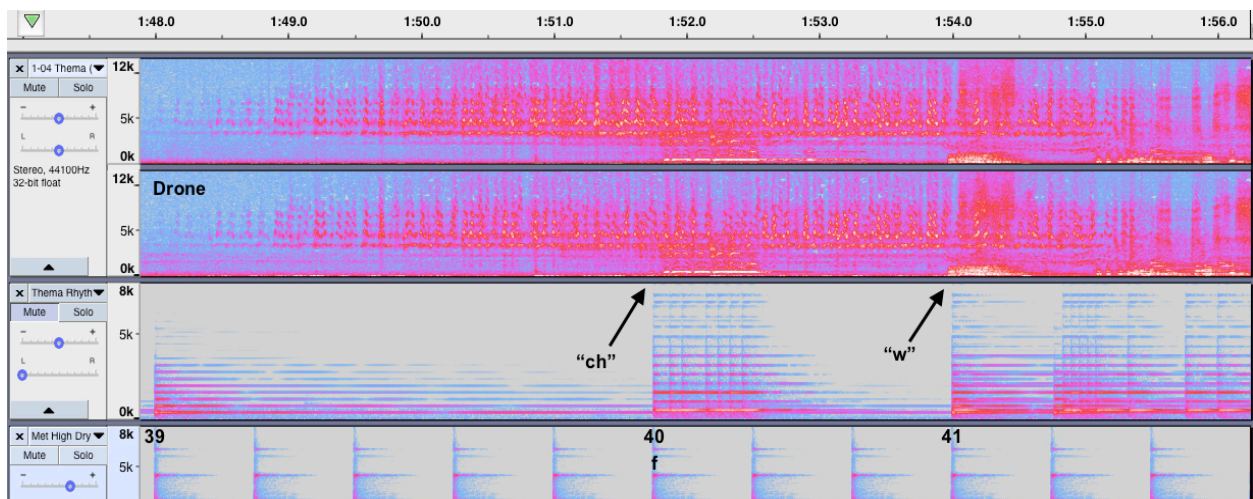


Figure 3.10. *Thema* spectrogram mm. 39-41, time code 1:51.728 at m. 40, subsection f

²⁸ Laugesen, 17-18.



Figure 3.11. *Thema* transcription mm. 39-42

Measures 44-46 contain another drone in layer 2 with a swirling electronic synth feel. It evolves into a deeper sound throughout these three measures. In measure 46 a very subtle event of crisp high-pitched white-noises squeak in the foreground (Figures 3.12 and 3.13).

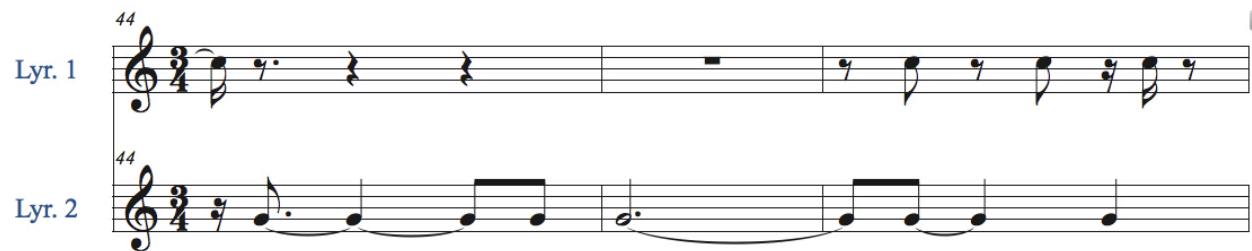


Figure 3.12. *Thema* transcription mm. 44-46

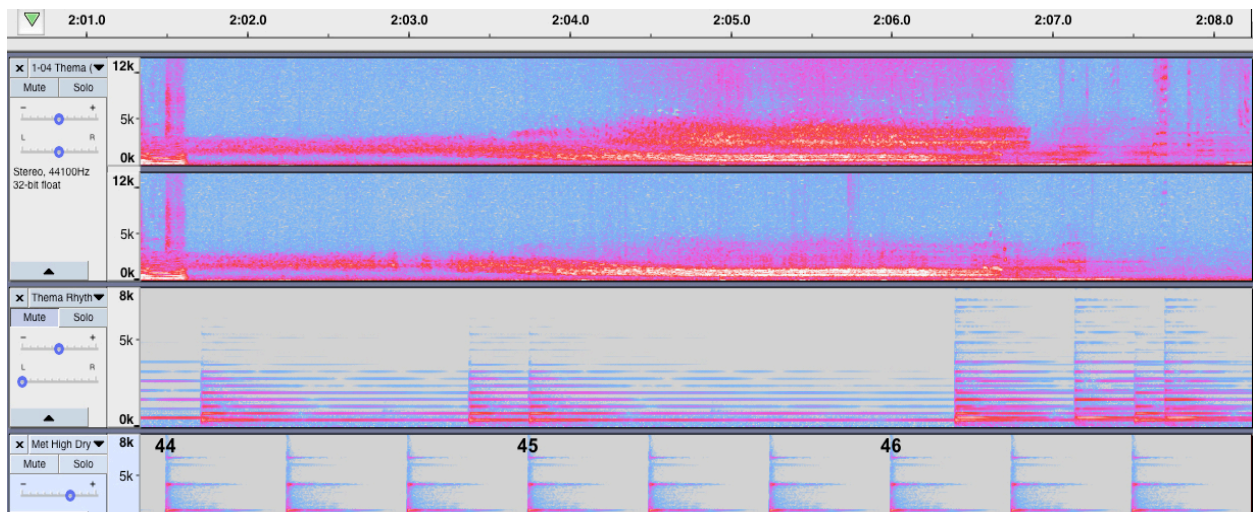


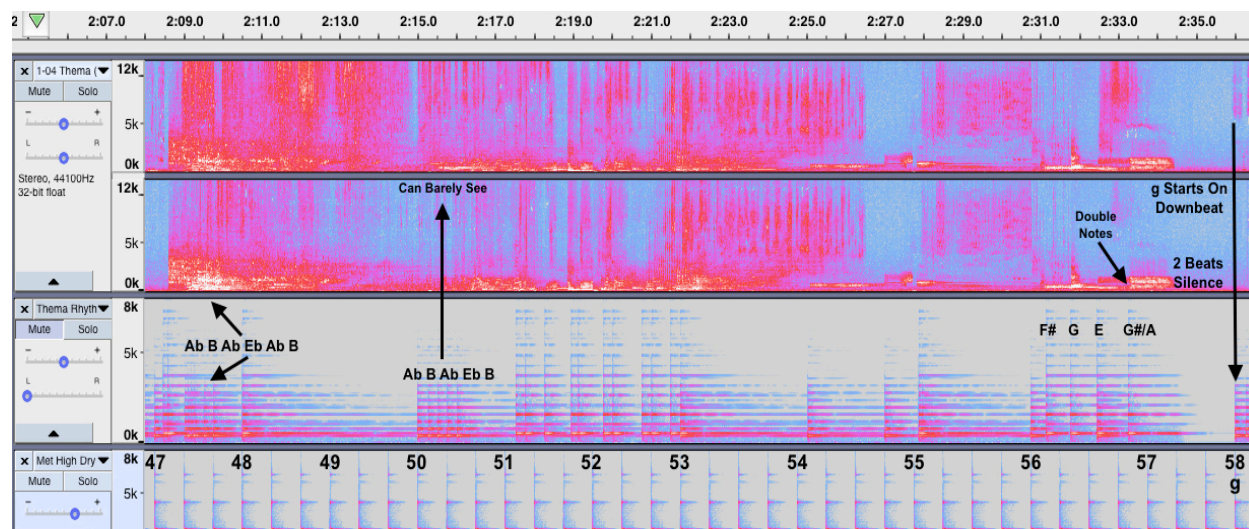
Figure 3.13. *Thema* spectrogram mm. 44-46

The drone changes at measure 47 to a more dramatic layering of synth and a crowd of voices in a background. In layer 2 the first of a series of motivically quasi-melodic events can be heard on beat two. This instance is very subtle and serves as a subconscious preparation for the additional instances of the motive. They are referred to as “quasi-melodic” because the actual pitches do not conform perfectly to the even-tempered tuning system and they also contain a large amount of overtones. This is the reason that “pitches” were not used in the transcription which is intended to be solely rhythmic. The notes used in successive paragraphs are close approximations. The motive in measure 47 is closely related to Ab - B - Ab - Eb (below) - Ab - B in the C4 octave which outlines an Ab minor chord. The drone wanes into another instance of the motivically melodic sound event in measure 50. This time the event is exposed but notice in the spectrogram it can barely be seen (Figure 3.15). The notes are also the same Ab minor arpeggiation. The background crowd amplitude increases as a series of unintelligible voice-like events occur very rhythmically in measures 51-52. This a clear example of Berio transforming “words gradually into music” and into “perceived musical structures.”²⁹ Berio uses an effect that likens to rapidly moving a fader up and down so the sound will come in and out. He is preparing the listener for a sound event in subsection i in Section C. The background crowd blends back into the synth drone in measures 53-55 before taking on another series of melodic steps from measures 56-57 as seen in Figures 3.14 and 3.15. These steps most closely approximate F# - G - E - G#/A but exist much less in the even-tempered tuning system. The last note is best described as containing both G# and A pitches simultaneously and can readily be seen in Figure 3.15.

²⁹ Schrader, 179.

Measure 57 brings the f subsection to a close with two beats of silence that has already been established as transitory before subsection g begins with an entirely new texture at measure 58 and time code 2:35.981.

Figure 3.14. *Thema* transcription mm. 47-57



The g subsection focuses on “s” sibilant sound events and one moment of a tonally-
relative motif in an underlying drone which the listener was prepared to hear from the tonalized
drone moments in the previous subsection. Subsection g opens with a single layer of Berberian’s
voice being manipulated to focus mainly on the “s” sibilant gesture until the last triplet eighth note
in measure 58, where she can be heard saying “picore” which was taken from the French-
language version she recorded.³⁰ Measure 59 contains a singular sound event of a manipulated
recording of “sails.” There is another word layered underneath “sails” but it is impossible to
definitively tell what it is. The “s” in “sails” starts slightly early so that “ails” begins on the
downbeat. It was decided to make this rhythm a dotted-eighth sixteenth because the last “s” in
“sails” is prominent and percussive. Measure 62 contains more sound events centered around the
“s” sibilant gesture while another drone with a tonal relation of Bb - A - G in the C3 octave is
heard underneath. This event is dramatized by a brief moment of silence on the down beat
before the events occur toward and on the upbeat. Berio favors syncopation and often times does
not begin sounds directly on the downbeat. This should not falsify the claim that the work does
not exist at 80bpm. A plethora of examples to the contrary exist. The syncopation merely
emphasizes that Berio was a master composer who availed himself of all compositional rhythmic
techniques. The g subsection closes with another rhythmic event of “s” sibilant sounds before a
transition of silence with a pickup gesture into subsection h. (Figures 3.16 and 3.17).

³⁰ Berio, “Poesia e musica, un’esperienza,” 107.

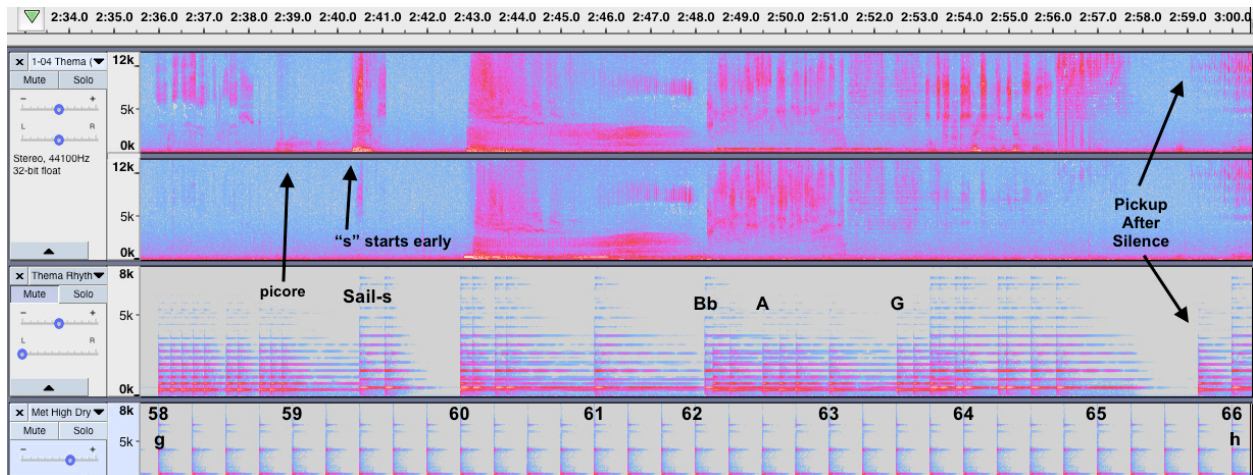


Figure 3.16. *Thema* spectrogram subsection g, mm. 58-65

Figure 3.17. *Thema* transcription subsection g, mm. 58-65

The last subsection (h) of section B is where the full transformation culminates. This subsection begins in measure 66 with a drone pickup that can be identified as a recording that has been sped up very quickly. It is the sound a tape player makes on fast-forward and sounds much like the drone in measure 23. The drone from measure 65 is then layered above (measure

66) with another crowd drone reminiscent of measures 47-50. However this drone takes on a quasi bell-tone quality as well. The first drone fades away into an abrupt cutoff. In measure 67 a new bell-tone drone enters on the upbeat of beat three in layer 2. This “bell-tone” and the other tonal-like pitches are truly remarkable because one must consider that Berio only used recordings of Berberian in three languages to achieve all these effects. The tone falls in between Eb and E in the C3 octave. Continuing in the foreground layer are more loud and abrupt sounds that morph from the bell-tone-like crowd to short melodic motives. The first of which occurs in measure 67 in layer 1. This motive closely resembles G# - F# - G# in the “e - + - a” of beat one and the same notes in the sixteenth-triplet eighth-note rhythm in beat two (G# - F# - G# - F#) before ending with a combination of Bb/C in the two eighth notes on beat four. The sixteenth-triplet eighth-note rhythm will be repeated in the next two measures (68-69) and slightly altered in measure 72 to create a reoccurring motive.

The first note in measure 68 on the second sixteenth partial (“e”) of beat two in layer 1 is a combination of G#/B. The reoccurring sixteenth-triplet eighth-note pitches are closely related to E - F# - G# - B - A - B which sounds more like a symphonic French horn’s hunting call than the human voice. The next measure’s (69) sixteenth-triplet eighth-note rhythm pitches are close to F# - D - E - F# in the C5 octave which is higher than any pitch-related content in *Thema* so far. The drone that begins underneath is dual layered with a high swirling pitch and a crowd layer using “s” sibilant sounds which is a very nice moment of musical development from previously used material. This drone abruptly changes into a higher pitched sound in measure 70 and then adds some of the white-noise drone sounds heard from the beginning of Section B in measure 23.

A low synth-like tone emerges in the second layer in measure 71 approximating the pitches G# - D - E - G# in the C3 octave. The final occurrence of the sixteenth-triplet motif can be heard in the foreground starting on beat two in measure 72. This is the loudest version of this sound event. It has been altered to a triplet eighth, two sixteenths, eighth and a quarter rhythm with pitches and overtones slightly more complicated: G# - E - G# - D#/G# - E/B. These notes comprise an E major minor 7th chord. The “tonality” abruptly shifts with a drone in the second layer in measures 73-74. The pitches are F - G# - A - G# - A. The shift in “tonality” signals a transition before a preparatory sound event (measure 75) that leads into Section C. The drone slowly fades through measure 74. The end of Section B, subsection h contains all the musical elements of *Thema* presented so far except intelligible text. The entire B section morphed from sounds that were identifiable as voices to sounds that sounded like bell tones and synths while adding a layer and depth of tonality that will not be visited again. The entire h subsection has hints of western tonality in that it seems to center around the E major minor 7th chord. While the f subsection centered around Ab minor. The dominant relationship between the two tonalities cannot be a coincidence. Subsection h closes with a transition (measure 75) that is very much like the transition that began it; with a high-speed tape sound but this one is not as high pitched as measure 65. See figures 3.18 and 3.19 for the transcription and spectrogram of this final subsection of Section B.

66 h 2:59.982 Continuous Sound
Changes In Pitch & Amplitude

Lyr. 1

66

Lyr. 2

71

Lyr. 1

71

Lyr. 2

Prep

G# F# G# G# F# G# F# Bb/C Bb/C G# B E F# G# B A B F# D E F# E/Eb B/C B/C G# E G# D/G# E/B G# D E G# G# G# F G A G# A

Figure 3.18. *Thema* transcription subsection h, mm. 66-75

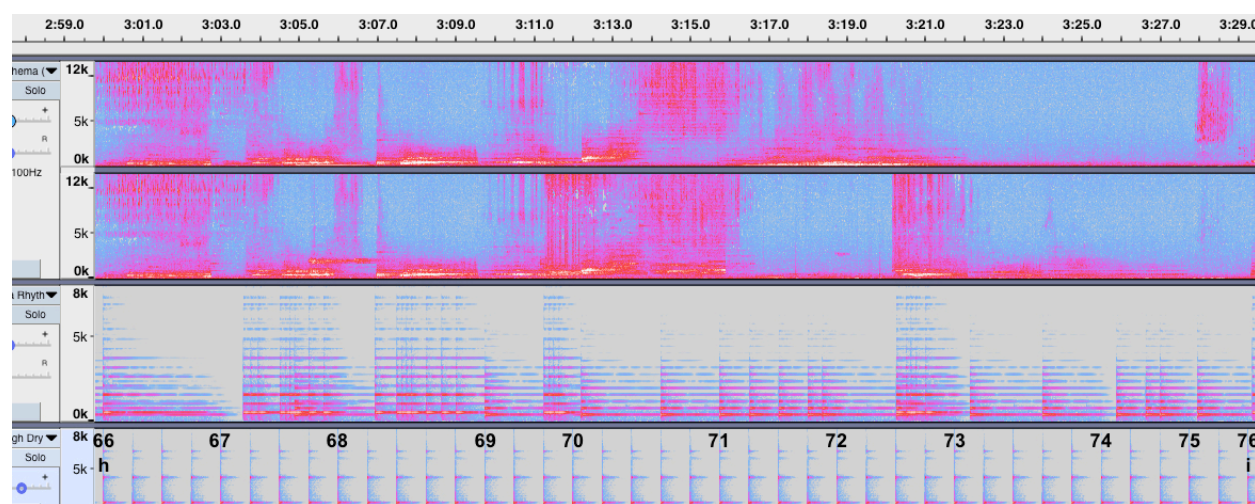


Figure 3.19. *Thema* spectrogram subsection h, mm. 66-75

Section C, subsection i begins at measure 76 with time code 3:29.234. The unintelligible voice sound event returns much like the introductory A section. Section C also mimics the A section in form being comprised of three short subsections. The first two subsections (i/j) are sparse in texture. Underlying sparse motivic events are evolving drones textures first presented in

the B section. The final subsection (k) is a more intense pairing of the these two elements and the climax of *Thema* as a whole. Berio chose Section C, subsection i to begin just after the downbeat to highlight the syncopated nature of a one-bar motif. It also has a quick fade-in fade-out effect added to it like in measures 51-52 in the B section. This effect in measure 76, layer 1 flows into a crowd drone and layer 2 emerges in measure 77. In measure 78 the drone in layer two morphs into mimicking the fade-in fade-out effect from layer 1, measure 76. This time the rhythm is triple based as opposed to duple based. As mentioned previously, structuring *Thema* in two layers creates an environment for a fugal counterpoint dialogue. In measures 76 and 78, Berio adds the canonical element from Joyce's sirens by imitating the motive but in triple base. These motifs are some of the clearest examples of Berio thinking rhythmically. Measure 79 contains a sound event of texts that sounds like "save us" but is modified into a sixteenth triplet figure. The last measure (80) of subsection i includes a final sound event consisting of voice with unintelligible text at a loud dynamic level and a two-beat transition drone into subsection j (Figures 3.20 and 3.21).

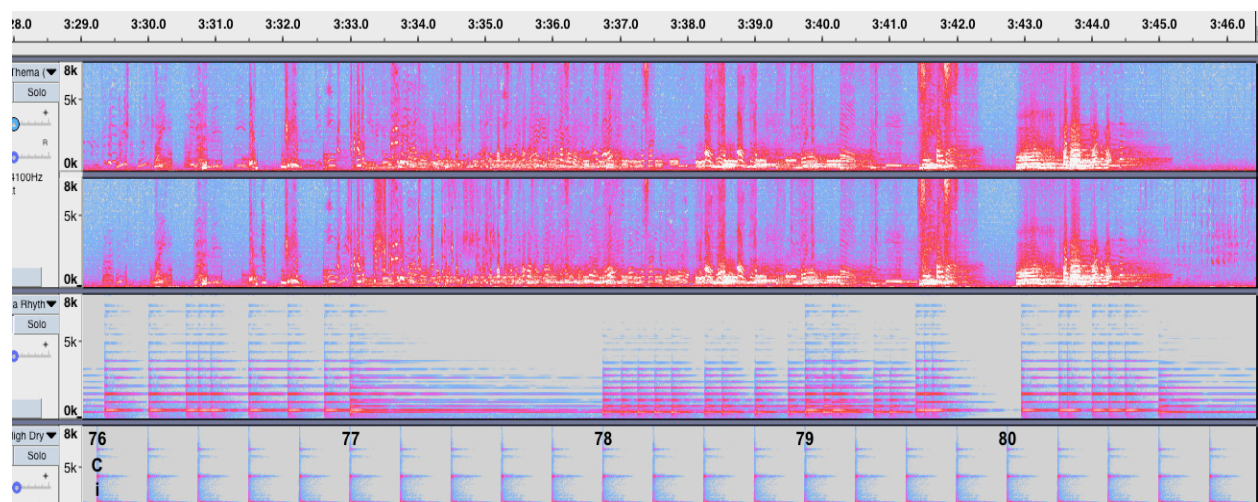


Figure 3.20. *Thema* spectrogram subsection i, mm. 76-80

Figure 3.21. *Thema* transcription subsection i, mm. 76-89

Without an intense listening one might think that subsection j is not really a new subsection but a continuation of subsection i. Subsection j continues the same sparse dual-layered texture of short rhythmic events over drones. However, the fade-in fade-out motif is no longer present, the drones disappear halfway through the subsection, and measure 85 recalls triplet motivic material from subsection h in Section B. The first motif on beat 1 approximates the notes C# - A - G# - D# - E which is a C# minor thirteenth chord without the seventh. The next motif on beat two is modulated down to the non-dominant tonal center by half steps and approximates G# - G - B# - D#. This arpeggiates a minor major seventh chord on G#. The abrupt arrival of short tonal material in measure 85 is juxtaposed by a rhythmic sound event with indeterminate pitch in layer 2 starting on the upbeat of beat three. This dialoguing figure continues through measure 86 through beat three. Subsection j ends as all other subsections with transition material. On beat four a loud and abrupt triplet figure jumps out before beginning the k

subsection. This figure sounds rhythmically and tonally related to the triplet figure at the beginning of measure 85 but is not clear enough to definitively say that there is pitched material.

Subsection j can be seen in figures 3.22 and 3.23 below.

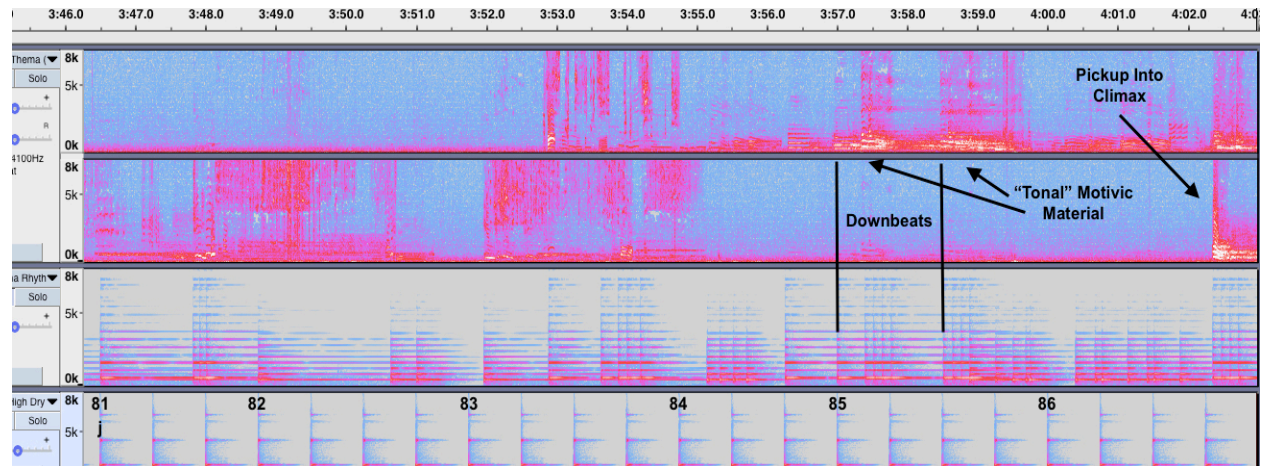


Figure 3.22. *Thema* spectrogram subsection j, mm. 81-86

Figure 3.23 shows the musical transcription of subsection j, measures 81-86, for two layers (Lyr. 1 and Lyr. 2). The transcription is in 3/4 time and includes a key signature change from 3/4 to 4/4 at measure 82.

Measure 81: Lyr. 1 has a quarter note G4, a quarter note A4, and a quarter note B4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

Measure 82: Lyr. 1 has a quarter rest, a quarter note G4, and a quarter note A4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

Measure 83: Lyr. 1 has a quarter note G4, a quarter note A4, and a quarter note B4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

Measure 84: Lyr. 1 has a quarter note G4, a quarter note A4, and a quarter note B4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

Measure 85: Lyr. 1 has a quarter note G4, a quarter note A4, and a quarter note B4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

Measure 86: Lyr. 1 has a quarter note G4, a quarter note A4, and a quarter note B4. Lyr. 2 has a quarter note G4, a quarter note A4, and a quarter note B4.

The transcription includes a key signature change from 3/4 to 4/4 at measure 82. The notes are G4, A4, B4, C#4, D#4, E4, G#4, B#4, D#4. The transcription also includes a key signature change from 3/4 to 4/4 at measure 82.

Figure 3.23. *Thema* transcription subsection j, mm. 81-86

Subsection k is the culmination of Section C and also where the climax of *Thema* occurs.

Kelly Marques notes this as Berio's use of the Golden Ratio. She says, "It is considered the

climax of the work..., where is the proportion of the section of gold of the piece. Berio, actually used this ratio in his compositions, for example: Sequenza V for trombone solo, in which the division of the piece is partly A and B, sound events gradually lead us to more intense events and finally lead to a culminating point of the piece, the gold section.”³¹ Translated from Portuguese into English she means Golden Ratio. The sound event begins at measure 87, time code 4:02.984. The drone is double layered with an evolving high-pitched sound in layer 1 and a crowd drone in layer 2. This relates to the drone in measure 47. The crowd drone fades away in measure 88. The rhythmic fade-in fade-out effect at the beginning of Section C returns for four measures in layer 2. This event ends and is replaced by another crowd drone but the effect is that of a tape running at high speed which makes it higher than the drone in layer 1. It should also be noted that these layer 2 sound events are panned to the right channel. Measure 94 contains the next sound event in layer 1 on beat two. The sound is unintelligible voice that has been heavily altered. The depth of the drone thins out and goes through a series of indeterminate pitch changes from measures 95-98. It then slowly fades over seven measures. Measure 106 is peculiar in that it seems to contain 2.5 seconds of silence as Dr. Lamb has suggested.³² A more thorough listening however reveals sound events in beats one and three (Figure 3.24 and 3.25). The final event of measure 106 is a pickup into Section D that will serve as a melodic motive in subsection 1.

³¹ Marques, 35.

³² Lamb, 64.

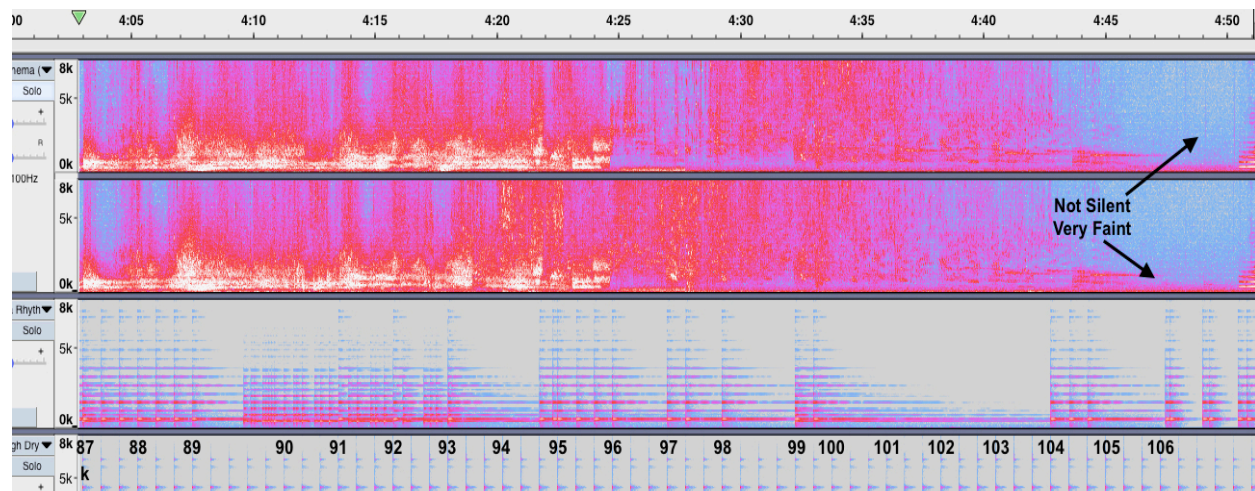


Figure 3.24. *Thema* spectrogram subsection k, mm. 87-106

Figure 3.25 shows the musical transcription for *Thema* subsection k, mm. 87-106, featuring two staves (Lyr. 1 and Lyr. 2) across three systems. The notation includes various time signatures (3/4, 2/4, 4/4) and musical symbols such as notes, rests, and triplets. Key annotations include:

- System 1 (mm. 87-92):** Lyr. 1 starts at m. 87 with a tempo marking of k 4:02.984. Lyr. 2 begins at m. 87 with a "Fade-in Fade-out Effect" indicated by blue brackets over triplets.
- System 2 (mm. 93-100):** Lyr. 1 continues with a red line underlining measures 93-99. Lyr. 2 continues with a red line underlining measures 93-99.
- System 3 (mm. 100-106):** Lyr. 1 continues with a red line underlining measures 100-105. Lyr. 2 continues with a red line underlining measures 100-105. Annotations "Not Silent", "S", and "P" are present above the final measures.

Figure 3.25. *Thema* transcription subsection k, mm. 87-106

Section D has all the elements of previous sections while adding new elements (emotive instrumentals and boings) and is a fully developed section within itself. It begins at measure 107 and time code 4:50.982. The transition into this new section is still on-going. The timbre of the sound event resembles a middle eastern instrument. Again, it is amazing that Berio achieved such a characteristic sound with a deep emotive quality considering his only source of material is recorded voice. The notes approximate E - E - F# and end with a G release. The work continues with intermittent syncopated sound events in layer 1 through measures 108-110. More interestingly is a motif that occurs very softly in the background in layer 2. It is the double “E” beginning of the motive in 106 (Figure 3.26). Section D begins with an air of tonality and the next sound events cement that observation. Measure 109 continues with melodic material. The triplet-eighth partials on beat two have approximate pitches of C/E - B. The transcription reveals another moment of triple-time dialogue like subsection c (mm. 10-15). Starting just after beat five is a five note motif. The pitches approximate G - F# - F# - G - F. Pitches 1, 2, and 5 occur in the C3 octave. Pitches 3 and 4 occur in the C4 octave. The tonal center seems to shift between C Major and E Major because of the two-note “E” motif in the second layer acting as a basso ostinato when the F# is introduced in measure 109. Measure 111 has a descending melodic line of A - G# - F#. Measure 112 is the last measure of subsection l. Again, Berio’s compositional style remains consistent. It contains silence, a preparatory sound event and another tonal motive like the beginning of the previous subsection leading into subsection m (Figures 3.26 and 3.27).

106 P D 14:50.982 >

Lyr. 1

Lyr. 2

110 S Prep E E

F

E E A G# F

s o- f tword

Figure 3.26. *Thema* transcription subsection 1, mm. 106-112

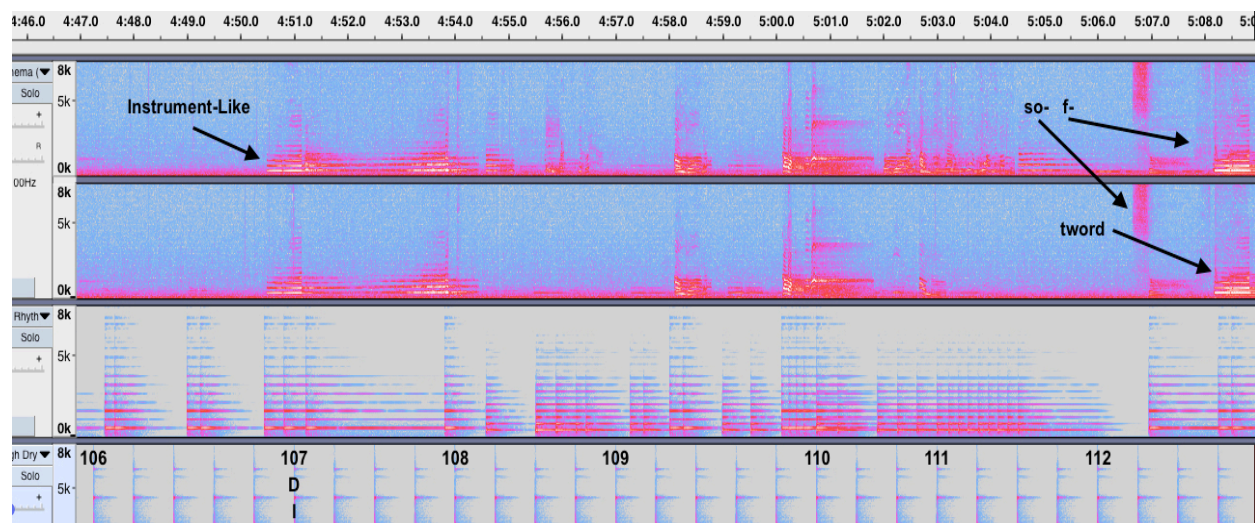


Figure 3.27. *Thema* spectrogram subsection 1, mm. 106-112

The preparatory sound event in measure 112 is intelligible text. Berberian is saying “soft” and then “word” in a very interesting way. She elongates the “s” sibilant, then the “o” vowel of “soft.” Then she hangs the “f” and places the “t” at the beginning of “word” (3.26) From this

point on *Thema* will focus on more intelligible textual sound events of Berberian's recordings. The transcription was written to present the best representation of Berio's intentions when considering whether the rhythm of a spoken text should start on the sibilant or the vowel, as mentioned previously. After Berberian can be heard saying "soft" in measure 112, the middle-eastern sound event returns on beat four while "ftword" is initiated. The approximate pitches are E - E - F - F. First "F" on beat one in measure 113 bends toward the pitch of E before landing on "F" on beat two.

Thema has now entered subsection m at time code 5:08.980. Berio has returned the focus to "s" sibilants as well. A dialogue begins between the two layers as "soft word" and then "a-las" can be heard in the second layer in measure 113 while the middle-eastern sound event drones overhead. "Listen" can be heard in measure 115. Berberian lifts off the "n" hard enough to warrant a dotted eighth-note in beat three. Measures 116-117 contain the only moment where an entire thought from "Sirens" is conveyed in intelligible text: "Each and for other splash and silent roar" while the "s" sibilant can be heard underneath. In measure 118, "so sad" on beats three and four in layer 2 can be heard which is in the same line as "so lonely" in the poem. On the downbeat of measure 119, "Pearls" can be heard as "s" sounds hiss below. The "p" of "Pearls" is heard very softly just before it's re-articulated in measure 119. "When she" is heard in measures 120-121 starting on beat three in layer 1 as a bass tone with the approximate pitch of B is heard in layer 2. There is an interesting abrupt cutoff of sound for one beat in measure 121. The initiation of the text is hard to understand in measures 121-122. Berio edits the tape so it sounds like grace notes exist just before the words "ftword" and "roar" while "a-las" can be heard

underneath in layer 2. Measures 123-124 increase in layer and density which is a standard compositional technique in music as a phrase comes to its end. It should be noted that the texture of most of subsection m is just the two layers of intelligible voice which creates the effect of openness and space. This texture hasn't been explored since the very beginning of *Thema*. Measures 123-124 consist of 3 layers of sound events: a "hiss," some text (hard to understand), a rhythmic moment like a trumpet call, and triplet quarter notes of the "s" sibilant. The final measure is a "boing" sound event that prepares the listener for the final subsection.

112 S Prep 113 m 5:08.980

Lyr. 1

lis- te-n each and for o-ther plash and silen- troar

Lyr. 2

so f tword a- las

118

Lyr. 1

pearls when she f- tword r- oar

Lyr. 2

so sad B

123 Prep

Lyr. 1

a- las

Lyr. 2

SSS SSS etc

Figure 3.28. *Thema* transcription subsection m, mm. 112-125

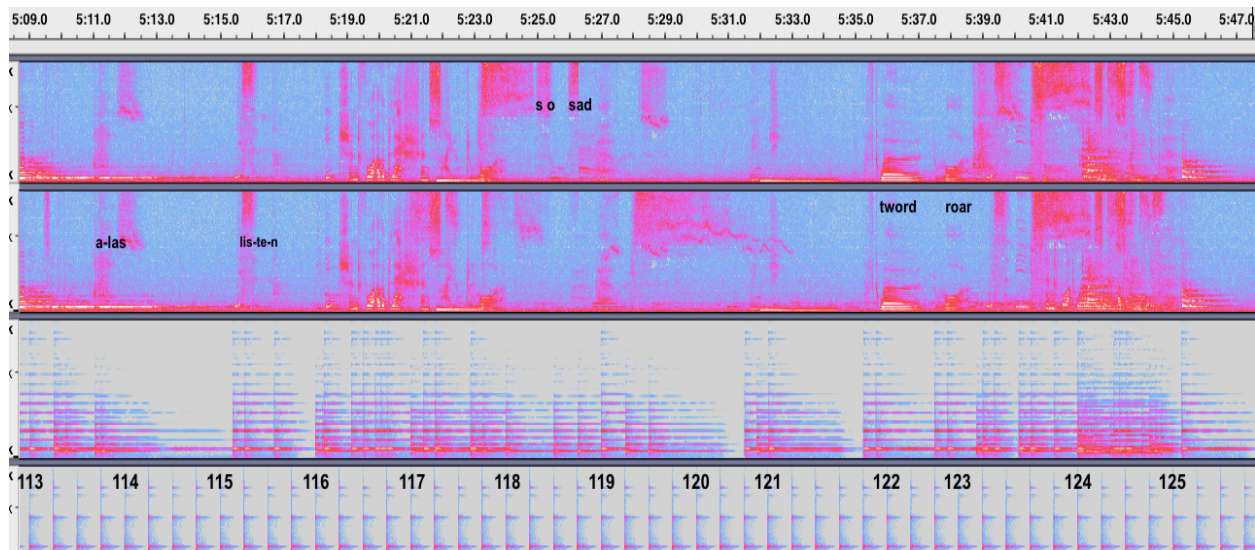


Figure 3.29. *Thema* spectrogram subsection m, mm. 113-125

The final subsection (n) begins at measure 126 and time code 5:47.232. This subsection begins with a lively rhythmic and melodic measure. Measure 126 can be broken down into four parts which melodically move down in stepwise motion. The first four note's pitches are approximately Eb - Eb - A - C#. The next four note's pitches are G - Eb - C - Eb which is a C minor arpeggiation. C# moved to C. Eb stayed the same. The next two notes pitches are F# - D which moved from G - Eb. The final four notes pitches are F - C# - B - C#. The last two figures approximate a B minor arpeggiation moving to B diminished. The final triplet figure in layer 2 was a sound event heard back in measure 86. "War" can be heard in measure 127 before the "boing" sound event returns in measure 128 over hisses of the "s" sibilant. A percussive texture of "s" sibilants continue through to the end. The last intelligible text is "when she" in measure 130. Measures 131-132 contain two short boops in layer one. The last sound event is a hiss that

slowly fades to nothingness. As mentioned previously, the original recording included fifteen seconds of silence to bring *Thema* to a more poignant close.

The transcription shows two staves, Lyr. 1 and Lyr. 2, with musical notation and lyrics. Lyr. 1 includes lyrics 'war' and 'boings'. Lyr. 2 includes lyrics 'when she' and 'boop boop'. The transcription is marked with 'n 5:47.232' and 'boings'.

Figure 3.30. *Thema* transcription subsection n, mm. 126-134

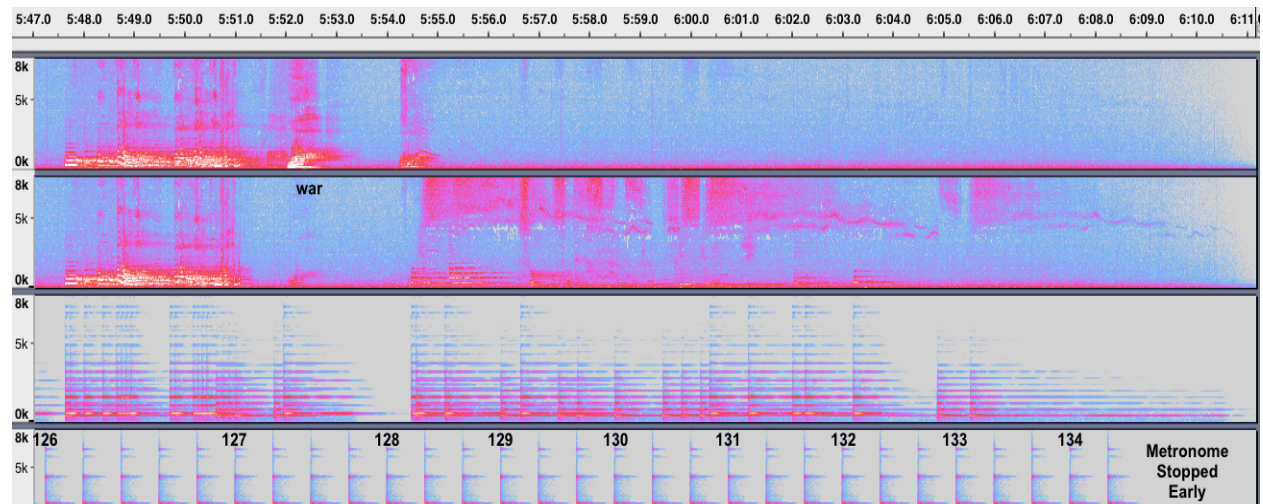


Figure 3.31. *Thema* spectrogram subsection n, mm. 126-134

The analysis of the transcription and *Thema*'s form does not align with Dr. Marvin Lamb's form analysis which is based on time codes from the original recording that include a

Coda section. Lamb asserts that the Coda begins at this analysis' Section D and, "employs material that formerly served as the predominant distinguishing sonorous objects of sections "A" and "B.""³³ It is easy to understand why Dr. Lamb might have thought that *Thema* ended at measure 106 since this section contains the climax of *Thema*. A detailed analysis has been presented that the introduction of sound events was implemented by "preparation" throughout the entire work. From this point of view while Section D has elements of previous sections, it also contains new elements (emotive instruments and boings) and is a fully developed section and not an extended cadence as calling it a Coda would suggest. This does not mean that Dr. Lamb's analysis is incorrect but merely a difference in approach. The transcription provides for a different level of understanding. It more closely aligns with Emily Snyder Laugesen's six section form. Especially when she notes that Section 1 culminates in the "blooming" event which coincides with this analysis that this is the end of Section A. She also determined that Section 2, "pits 'high-pitched' bands of continuous sounds against a variety of discontinuous sounds," which is in agreement with the interpretation of Section B. There is also agreement that her final Section 6 begins at this analysis' final Section D.³⁴ This analysis agrees closely with Kelly Marques' time codes for the end of the introduction, the climax that occurs from 4:02-4:49, which ends subsection C, and the theory of the Golden Ratio.³⁵ The point of departure is that Marques determined that only two sections existed up to the climax (A and B) as opposed to ending in the third section (C).

³³ Lamb, 64.

³⁴ Laugesen, 125-126.

³⁵ Marques, 35.

Within all of these analyses there are far more agreements than disagreements. There is agreement amongst all parties that Section A is an introduction, Section B is a development, and the climax of *Thema* occurs at 4:02. The lack of consensus lies in how to identify the material after the climax. Each dissertation and analysis has provided their own unique perspective and contribution to the study and understanding of Berio's *Thema*.

CHAPTER 4. DISCUSSIONS

Beyond this analysis the question of Berio never mentioning a specific tempo remains. *Thema* was created to be performed on four tape tracks simultaneously. At minimum, Berio would have needed a way to sync all the sound events on each tape. 38.1cm/sec is the standard tape speed for professional music recording and radio programming.³⁶ The length of tape required to create one minute of music is 2,286cm. Divide 2,286cm by 80bpm and the length of tape required to create one beat is 28.575cm. 28.575cm equals exactly 11.25 inches. If Berio had decided to compose *Thema* at 90bpm then the tape would have measured 10 inches for one beat. 10 inches is inherently easier to keep track of and measure out than 11.25 inches. No unusual time signatures or rhythms were required to transcribe the audio and the time signatures change with almost every phrase in the transcription implying Berio composed in phrases and beats. Berio specifically chose 80bpm and then calculated the needed tape length of 11.25 inches for the beats. A casual glance at the transcription does not show micro-rhythms except in places where it has already been established that Berio intended these moments to be viewed as macro or sustained sound events. At some moments, such as measures 76 and 78, Berio composed specific rhythms in a fugal canonical motive (Figure 4.1).

³⁶ Olin Sewall Pettingill, *Ornithology in Laboratory and Field*, (Orlando: Academic Press, 1985), 366.

Figure 4.1. *Thema* transcription subsection i, mm. 76-78

Figure 4.1. *Thema* transcription subsection i, mm. 76-78

In other measures such as 40-41, Berio allowed the effect he was trying to convey take on its own rhythm viewing it from a macro event (Figure 4.2).

Figure 4.2. *Thema* transcription mm. 39-42

Figure 4.2. *Thema* transcription mm. 39-42

Berio often uses silence to transition the listener from one section to another but the length silence is always precise. Silence is not used as an imprecise means to enable new material to be heard by allowing an indeterminate length of tape to be cut randomly so a new section of tape could be pasted in. Each moment of silence was carefully planned and has as much purpose as any audible sound event. Nowhere in *Thema* does one effect bleed into another in an indistinct manor.

Each sound event was carefully manipulated and measured as noted by Berio's engineer, Marino Zuccheri when he said,

... talking about the work we did on the tape of *Thema*... at that time it really was manual work, the composer had to make an enormous effort to achieve what he intended. For *Omaggio a Joyce* we did a masterpiece of 'cut and paste'. I'm talking about the manual work, cutting, selecting, overlaying the phonemes spoken by Berberian... I would say that Berio worked on that tape for six months. I nicknamed it 'Burano Lace'...³⁷

The only conclusion to derive is that Berio intentionally composed *Thema* in beats, basic rhythms, phrases, and inches.

³⁷ Veniero Rizzardi, and Angela Ida De Benedictis, *Nuova musica alla radio: esperienze allo Studio di fonologia della RAI di (Milano, 1954-1959. Roma: RAI ERI, 2000)*, 186.

CHAPTER 5. CONCLUSION

The transcription and spectrogram presented a visual representation of the music so that structures could be seen including large formal sections, subsections, phrases, rhythmic and melodic motives, layers, dialogue, and fuga per canonem. More importantly the transcription provided a road-map to compare and contrast different elements that reoccur throughout *Thema*. It shows that Berio favors syncopation and often times does not begin sounds directly on the downbeat. This does not falsify the claim that the work exists at 80bpm but that syncopation merely emphasizes Berio's mastery of all compositional rhythmic techniques. Obviously every sound event was not rhythmically planned. The transcription does a good job of showing the events that were specifically composed and events that Berio composed as whole structures rather than each individual note. What is important to take from those moments is the initiation of those structures as they relate to the tempo and sections. Since Berio did not create a score the spectrogram aided in holding accountable the accuracy of the transcription. The assertion that *Thema* exists at 80bpm was also verified by the transcription itself in that no unusual time signatures or rhythms were required to transcribe the audio. The rhythmic transcription and spectral analysis clearly show a well thought-out and planned structure that assuredly would have enabled Berio to create constant and controlled transformations in a constant tempo. Analysis of the rhythmic phrases shows that electroacoustic music can have a controlled structure and that these structures earned *Thema* an enduring legacy of masterpiece.

The concept that rhythms exist in *Thema* opens an entirely new and deeper level of analysis far beyond large scale form. The methodology used in this analysis could open new

levels of understanding for works such as Karlheinz Stockhausen's *Gesang Der Jünglinge*³⁸ which resides at 60bpm or Paul Lansky's *Idle Chatter*³⁹ which resides at 120bpm and many more.

³⁸ Karlheinz Stockhausen, *Elektronische Musik 1952-1960*, ([Kürten]: [Allemagne], 1991) track 4.

³⁹ Paul, Lansky, *LANSKY, P.: Idle Chatter*, (Hong Kong: Naxos Digital Services US Inc, n.d.), <http://univportal.naxosmusiclibrary.com/catalogue/item.asp?cid=BCD9050>.

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APPENDIX A. THEMA OMAGGIO A JOYCE RHYTHMIC TRANSCRIPTION

Thema Omaggio a Joyce

A Rhythmic Transcription

Luciano Berio
Trans. Christopher McCardle

$\text{♩} = 80$
Prep

A a 0:01.475 P

Layer 1

Layer 2

5 S **6** b 0:17.985 **9** c 0:26.231

Lyr. 1

Lyr. 2

10

Lyr. 1

Lyr. 2

15

Lyr. 1

Lyr. 2

Thema Omaggio a Joyce

20 S Prep B 23 d 0:57.731

Lyr. 1

Lyr. 2

27 30 e 1:18.749

Lyr. 1

Lyr. 2

32

Lyr. 1

Lyr. 2

36 40 f 1:51.728

Lyr. 1

Lyr. 2

41

Lyr. 1

Lyr. 2

Thema Omaggio a Joyce

47

Lyr. 1

Lyr. 2

53

Lyr. 1

Lyr. 2

58

Lyr. 1

Lyr. 2

g 2:35.981

62

Lyr. 1

Lyr. 2

SSS...

Tone Change

P

66 h 2:59.982

67

Lyr. 1

Lyr. 2

Continuous Sound
Changes In Pitch & Amplitude

Thema Omaggio a Joyce

72 C 76 i 3:29.234

Lyr. 1 

Lyr. 2 

77

Lyr. 1 

Lyr. 2 

81 j 3:46.480

Lyr. 1 

Lyr. 2 

85 P 87 k 4:02.984

Lyr. 1 

Lyr. 2 

89

Lyr. 1 

Lyr. 2 

Thema Omaggio a Joyce

96

Lyr. 1

Lyr. 2

104

Lyr. 1

Lyr. 2

S P **D** 107 14:50.982

109

Lyr. 1

Lyr. 2

S Prep

113 m 5:08.980

Lyr. 1

Lyr. 2

118

Lyr. 1

Lyr. 2

Thema Omaggio a Joyce

123

Lyr. 1

Prep

123

Lyr. 2

SSS 3 SSS etc 3

126 n 5:47.232

Lyr. 1

126

Lyr. 2

3

129

Lyr. 1

129

Lyr. 2

3

APPENDIX B. SELECTED LINES FROM EPISODE 11- SIRENS

Chips, picking chips off rocky thumbnail, chips. Horrid! And gold flushed more.

Blew. Blue bloom is on the

Jingle jingle jaunted jingling.

Coin rang. Clock clacked.

Jingle. Bloo.

Boomed crashing chords. When love absorbs. War! War! The tympanum.

A sail! A veil awave upon the waves.

Lost. Thristle fluted. All is lost now.

Clapclap. Clipclap. Clappyclap.

I feel so sad. P. S. So lonely blooming.

Listen!

The spiked and winding cold seahorn. Have you the? Each and for other splash and silent roar.

Pearls: when she. Liszt's rhapsodies. Hissss.

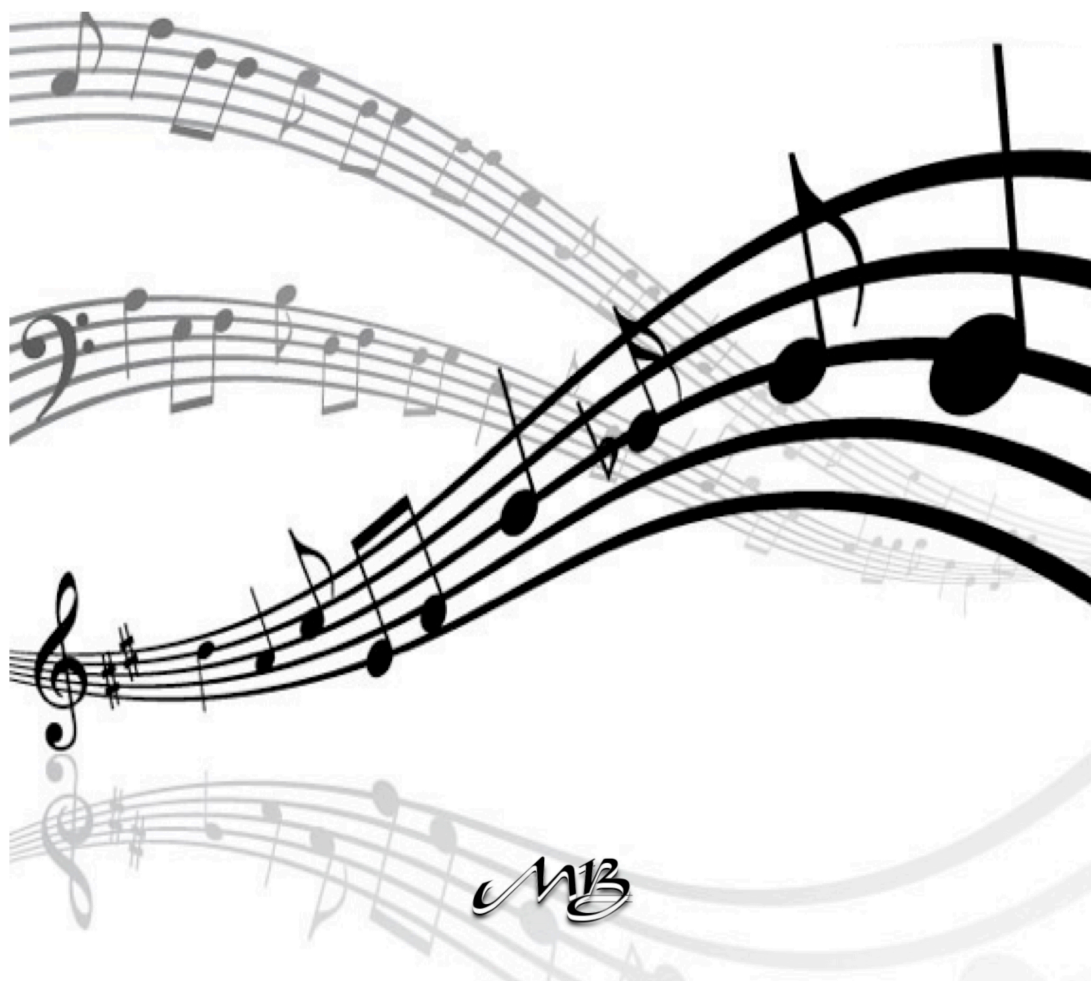
Prrpffrrppfff.

Done.

The Once & Future King

Orchestral Suite No. 1

Christopher McCardle



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Christopher McCardle

The Once & Future King

Orchestral Suite No. 1

Duration: ca. 20 min.

Instrumentation

2 - Flutes 1 and 2

*2nd doubles as Piccolo

1 - Oboe

1 - English Horn

2 - Bb Clarinets 1 and 2

*2nd doubles as Bass Clarinet

2 - Bassoons 1 and 2

*2nd doubles as Contrabassoon

2 - Horns in F 1 and 2

2 - Trumpets in C 1 and 2

2 - Trombones 1 and 2

1 - Tuba

1 - Timpani

1 - Harp

1 - Piano

* Doubles as Celeste

6 - Percussion (Snare Drum, Bass

Drum, Janissary Drums,

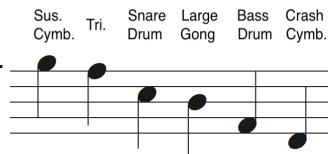
Vibraphone, Chimes, Sus.

Cymbal, Crash Cymbal,

Triangle, Bells, Crotales,

Large Gong, Wind Chimes)

1 - Strings (8, 8, 8, 4, 4)



Christopher McCardle

The Once & Future King

Orchestral Suite No. 1

Program Notes

The Once & Future King is loosely programmatic. The work was inspired by the first fantasy book I read in school about the mythical King Arthur also titled *The Once & Future King*. As I read, I would often compose epic orchestral scores in my mind. Thus, the work makes use of modality and typical fantasy/fanfare chord progressions of bVI-bVII-I. The work is intended for high school ensembles. Each movement was composed and designed as a stand-alone work. If a double bass extension is not available play an octave up. If the first violins or trumpets are too high play an octave down. Crescendos and Decrescendos without start/stop dynamics should be executed as swells. The piano and celeste should be amplified to balance the orchestra. The following literary-style quotations are my own...

I. The Once & Future King

ca. 4:46

"He won the sword, but did he have the heart of a King?"

II. The Tale of Two Queens

ca. 4:46

"Two Queens, two choices... honor or power."

III. Winter Waltz

ca. 5:22

"The enchanted music flowed from the Ice Palace like the song of a siren tempting all who passed by."

IV. The Throne

ca. 5:14

"They were all there, gathered in that place to claim the throne that was rightfully theirs."

Score

I. The Once & Future King

He won the sword, but did he have the heart of a king?

Christopher McCardle

♩=132 Maestoso

Piccolo *f*

Flute 1 *f*

Clarinet in B \flat 1 *f*

Horn in F 1 *f*

Horn in F 2 *f*

Trumpet in C 1 *f*

Trumpet in C 2 *f*

Trombone 1 *f*

Trombone 2 *f*

Tuba *f*

Timpani *f*

Bells *f*

Chimes *f*

Percussion *f*

Bass Dr. *f*

Crash Cymb. *f*

Harp *f*

♩=132 Maestoso

Violin I *f*

Violin II *f*

Viola *f*

Cello *f*

Contrabass *f*

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I. The Once & Future King

5

Picc. *mf*

Fl. 1 *mf*

B \flat Cl. 1 *mf*

B \flat Cl. 2 *mf*

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1 *mf*

Tbn. 2 *mf*

Tuba *mf*

5

Timp.

Bls.

Chm.

5

Perc. 8

Vln. I *ff*

Vln. II *ff*

Vla. *mf*

Vc. *mf*

Cb. *mf*

I. The Once & Future King

Picc. *mf* *f* *mf*
 Fl. 1 *mf* *f* *mf*
 Ob. *mf* *f* *mf*
 E. Hn. *mf*
 B♭ Cl. 1 *mf* *f* *mf*
 B♭ Cl. 2 *mf* *f* *mf*
 Bsn. 1 *mf* *f* *mf*
 C. Bn. *mf*
 Hn. 1 *mf*
 Hn. 2 *mf*
 C Tpt. 1 *f*
 C Tpt. 2 *f*
 Tbn. 1 *f*
 Tbn. 2 *f*
 Tuba *f*
 Timp. *mf*
 Bls. *mf*
 Chm. *mf*
 Perc. *mf* Sus. Cymbal *f*
 Hp. *mf*
 Vln. I *mf* *f* *mf*
 Vln. II *mf* *f* *mf*
 Vla. *mf* *f* *mf*
 Vc. *mf* *f* *mf*
 Cb. *mf* *f* *mf*

I. The Once & Future King

19

Picc.

Fl. 1

Ob.

E. Hn.

B♭ Cl. 1

B♭ Cl. 2

Bsn. 1

C. Bn.

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1

Tbn. 2

Tuba

Timp.

Bls.

Chm.

Perc.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

mf

f

fp

Sus. Cymbal Tri.

Unis.

I. The Once & Future King

27 **A** $\text{♩} = 80$ His Heart *espress. legato*

Fl. I *mf*

Ob. *mf*

E. Hn. *mf*

Perc. 27

Pno. *legato* *mf*

Vln. I **A** $\text{♩} = 80$ His Heart *p*

Vln. II *p*

Vla. *mp*

Vc. *mp*

Cb. *mp pizz.* *mf* *mf*

41 *legato* *mf*

Ob. *mf*

E. Hn. *mf*

B♭ Cl. I *espress. legato* *mf*

Bls. *mf*

Hp. *mf*

Pno. *mf*

Vln. I *Div.* *mp*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

Cb. *mf*

I. The Once & Future King

[illegible]

I. The Once & Future King

[illegible]

I. The Once & Future King

100

Picc.

Fl. 1

B♭ Cl. 1

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1

Tbn. 2

Tuba

100

Timp.

Perc.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

rit.

f

fp

fz

C

♩=132 Maestoso

Div.

Un.

I. The Once & Future King

I. The Once & Future King

113

Picc. *mf*

Fl. 1 *mf*

Ob. *mf* *f* *mf*

E. Hn. *mf*

B♭ Cl. 1 *mf* *f* *mf*

B♭ Cl. 2 *mf* *f* *mf*

Bsn. 1 *mf*

C. Bn. *mf*

Hn. 1 *mf*

Hn. 2 *mf*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1 *mf*

Tbn. 2 *mf*

Tuba *mf*

Timp. *mf*

Bls. *mf*

Chm. *mf*

Perc. *mf* Sus. Cymb. *f*

Hp. *mf*

Vln. I *mf* Div. Unis. Div. Unis.

Vln. II *mf* Div. Unis.

Vla. *mf*

Vc. *mf*

Cb. *mf*

I. The Once & Future King

This page of the musical score is for a symphony, featuring a large ensemble of instruments. The instruments listed on the left are: Picc., Fl. I, Ob., E. Hn., B♭ Cl. I, B♭ Cl. 2, Bsn. I, C. Bn., Hn. I, Hn. 2, C Tpt. I, C Tpt. 2, Tbn. I, Tbn. 2, Tuba, Timp., Bls., Chm., Perc., Hp., Vln. I, Vln. II, Vla., Vc., and Cb.

The score is written in 2/4 time, with a key signature of one flat (B♭). The tempo is marked as ♩ = 120. The score includes various musical notations, including notes, rests, and dynamic markings such as *f* (forte) and *mf* (mezzo-forte). There are also performance instructions, such as "Sus. Cymbal" and "mf" for the harp.

The page is numbered 126 in the top left corner. The score is divided into measures, with some measures containing multiple notes and rests. The instruments are arranged in a standard orchestral layout, with the woodwinds and strings in the front and the brass and percussion in the back.

I. The Once & Future King

Musical score for "I. The Once & Future King". The score is written for a large orchestra and includes the following instruments and parts:

- Picc.
- Fl. 1
- Ob.
- E. Hn.
- B♭ Cl. 1
- B♭ Cl. 2
- Bsn. 1
- C. Bn.
- Hn. 1
- Hn. 2
- C Tpt. 1
- C Tpt. 2
- Tbn. 1
- Tbn. 2
- Tuba
- Timp.
- Bls.
- Chm.
- Perc.
- Hp.
- Vln. I
- Vln. II
- Vla.
- Vc.
- Cb.

The score is marked with a tempo of $\text{♩} = 132$. It includes various musical notations such as dynamics (*fp*, *f*), articulation (*Tri.*, *L.V.*), and performance instructions. The score is divided into measures, with some measures containing multiple rests or specific musical figures.

Score

II. A Tale of Two Queens

"Two Queens, two choices...
honor or power."

Christopher McCardle

Score for "Two Queens, two choices... honor or power."

Flute 1: Honor $\text{♩} = 80$ Dolce, *p*

Flute 2: *p*

Oboe: *espress.*, *mp*

Bassoon 1: *mp*

Vibraphone: L.V., *mf*

Wind Chimes: *mf*

Percussion: Tri., *mp*

Violin I: Honor $\text{♩} = 80$ Dolce, *p*

Violin II: *p*, *mp*, *p*

Viola: *p*, *mp*, *p*

Cello: *p*

Contrabass: *p*

Fl. 1: *mf*

Fl. 2: *mf*

Ob.: *mf*

Bsn. 1: *mf*

Hn. 1: *espress.*, *mf*

Vib.: *mf*

Perc.: *mf*

Vln. I: *mf*

Vln. II: *mf*

Vla.: *mf*

Vc.: *mf*

Cb.: *mf*

II. A Tale of Two Queens

This page of the musical score contains the following staves and markings:

- Fl. 2:** Starts at measure 22, marked *mf*.
- Hn. I:** Starts at measure 22, marked *mf*.
- Hp.:** Starts at measure 22, marked *mf*.
- Pno.:** Starts at measure 22, marked *mf*.
- Vln. I:** Starts at measure 22, marked *pp*.
- Vln. II:** Starts at measure 22, marked *pp*.
- Vla.:** Starts at measure 22, marked *mf*.
- Vc.:** Starts at measure 22, marked *mf*.
- Cb.:** Starts at measure 22, marked *mf*.
- Picc.:** Starts at measure 30, marked *f*.
- Hn. I:** Starts at measure 30, marked *mf*.
- Tuba:** Starts at measure 30, marked *mp*.
- Pno.:** Starts at measure 30, marked *mf*.
- Vln. I:** Starts at measure 30, marked *pp*.
- Vln. II:** Starts at measure 30, marked *mf*.
- Vla.:** Starts at measure 30, marked *mf*.
- Vc.:** Starts at measure 30, marked *f*.
- Cb.:** Starts at measure 30, marked *f*.

II. A Tale of Two Queens

II. A Tale of Two Queens

Picc.
 Fl. 1
 Ob.
 E. Hn.
 B♭ Cl. 1
 B♭ Cl. 2
 B. Cl.
 Bsn. 1
 Bsn. 2
 C. Bn.
 Hn. 1
 Hn. 2
 C Tpt. 1
 C Tpt. 2
 Tbn. 1
 Tbn. 2
 Tuba
 Timp.
 Crt.
 Bls.
 Perc.
 Hp.
 Vln. I
 Vln. II
 Vla.
 Vc.
 Cb.

Musical score for "II. A Tale of Two Queens". The score is written for a large orchestra and includes dynamic markings such as *mp* (mezzo-piano), *mf* (mezzo-forte), *f* (forte), and *pp* (pianissimo). The key signature is B-flat major (two flats). The score is divided into two systems, with the first system containing measures 1 through 10 and the second system containing measures 11 through 20. The instruments are listed on the left side of the page, and their corresponding staves are arranged in a standard orchestral layout.

II. A Tale of Two Queens

B Power $\text{♩} = 65$ Misterioso

Hn. 1 *espress.* *mp*

Hn. 2 *espress.* *mp*

Perc. Bass Dr. *mp*

Vla. *mp*

Vc. *mp*

Cb. *mp*

61

Hn. 1 *mf*

Hn. 2 *mf* *f*

Tbn. 1 *mf* *f*

Tbn. 2 *mf* *f*

Tuba *mf* *f*

61

Timp. *mf* *f*

Perc. 61 Sus. Cymbal *mf* *f* Bass Dr. *mf* *f*

Hp. *f*

Pno. *mf* *f*

Vln. I *p* *mf* *f*

Vln. II *p* *mf* *f*

Vla. *p* *mf* *f*

Vc. *p* *mf* *f*

Cb. *mf* *f*

II. A Tale of Two Queens

Score

III. Winter Waltz

"The enchanted music flowed from the Ice Palace
like the song of a siren tempting all
who passed by."

Christopher McCardle

Intro
♩ = 60 *Affetuoso*

Harp

Piano

Violin I

Violin II

Viola

Cello

Contrabass

8

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

f

mf

p

ff

Div.

Unis.

Let Ring

♩ = 130 Misterioso

III. Winter Waltz

17 **A** Waltz

Fl. I

Ob.

Pno. *p*

Vln. I **A** Waltz

Vln. II *p*

Cb.

* *fla*

32

Fl. I *mp*

Ob. *mp*

E. Hn. *mp*

Pno. *mp*

Vln. I *pp*

Vln. II *p*

Vc.

* *fla* Unis.

III. Winter Waltz

This musical score is for measures 46 through 55 of 'The Swan' from 'The Nutcracker'. The score is written for a full orchestra and includes parts for Flute I, Oboe, English Horn, Piano, Violin I, Violin II, and Viola. The key signature is B-flat major (two flats) and the time signature is 3/4. The score begins with a rehearsal mark at measure 46. The Piano part features a prominent melody in the right hand, while the Violin II part plays a steady eighth-note accompaniment. The Viola part enters in measure 50 with a *pp* (pianissimo) dynamic. The score concludes with a *mp* (mezzo-piano) dynamic marking at the end of measure 55.



III. Winter Waltz

The image displays a page from a musical score, likely for a symphony, featuring a variety of instruments. The staves are arranged in a system, with the following instruments listed from top to bottom: Fl. I, Ob., E. Hn., Crt., Bln., Hp., Pno., Vln. I, Vln. II, Vla., Vc., and Cb. The score includes dynamic markings such as *mf* (mezzo-forte) and *espress.* (espressivo). A section labeled "B Scherzando" is indicated, suggesting a change in tempo and mood. The notation includes various musical symbols, such as notes, rests, and articulation marks, indicating the specific performance instructions for each instrument.

III. Winter Waltz

III. Winter waltz

101

Fl. I

Ob.

E. Hn.

Bs. Cl. I

Bsn. 1

Bsn. 2

Vln. I

Vln. II

Vla.

Vc.

Cb.

mf

mf

Unis.

Fl. 1

Fl. 2

Ob.

E. Hn.

Bs. Cl. 1

Tim.

Perc.

Vln. I

Vln. II

Vla.

Vc.

Cb.

95

III. Winter Waltz

[illegible]

III. Winter Waltz

III. Winter Waltz

153 *mf* **E** *Lacrimoso*

Fl. I

Ob.

E. Hn.

Bls.

153 *mp* **E** *Lacrimoso*

Cel.

Vla.

Vc.

Cb.

mp

169

Bls.

169

Cel.

Vln. II

p

Cb.

The musical score is for a section of 'III. Winter Waltz'. It begins at measure 153. The key signature has two flats (B-flat and E-flat). The tempo/mood is marked 'Lacrimoso' and the dynamics are 'mf' (mezzo-forte) and 'mp' (mezzo-piano). The score is divided into two systems. The first system (measures 153-168) includes parts for Flute I, Oboe, English Horn, Bassoon, Cello, Viola, Violoncello, and Double Bass. A double bar line is present at measure 168. The second system (measures 169-178) includes parts for Bassoon, Cello, Violoncello, Viola, and Double Bass. The dynamics change to 'p' (piano) at measure 169.

III. Winter Waltz

183

Bls.

Cel.

Vln. I

Vln. II

pp

p

183

184

185

186

187

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619

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623

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625

626



Score

IV. The Throne

"They were all there, gathered in that place to claim the throne that was rightfully theirs."

Christopher McCardle

[illegible]

IV. The Throne

29 **A** $\text{♩} = 90$ **Maestoso**

Ob.

E. Hn.

Bsn. I

C. Ba.

29 **A** $\text{♩} = 90$ **Maestoso**

Perc. **Janissary Jingles**
Janissary Drums

Vla.

Vc.

Cb.

The image displays a page from a musical score for 'The Lord of the Rings: The Two Towers'. The score is for a full orchestra and includes parts for Oboe, English Horn, Bassoon 1, Contrabass, Horn 1, Horn 2, Trombone 1, Trombone 2, Tuba, Timpani, Percussion, Violin I, Violin II, Viola, Violoncello, and Contrabass. The music is in 2/2 time and features a prominent horn melody in the first system, followed by a more complex arrangement in the second system.

IV. The Throne

B ♩ = 90 Con fuoco

B♭ Cl. 2

C. Bn.

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 2

Tuba

Timp.

Bls.

Perc.

Bass Dr.

Hp.

Cel.

Vln. I

Vln. II

Vla.

Vc.

Cb.

f

mf

p

Div.

8va

IV. The Throne

Picc. *mf* *f*
 Fl. 1 *mf* *f*
 B♭ Cl. 1 *mf* *f*
 B♭ Cl. 2 *mf* *f*
 C. Bn. *f* *mf* *f*
 Hn. 1 *f* *mf* *f*
 Hn. 2 *f* *mf* *f*
 C Tpt. 1 *f*
 C Tpt. 2 *f*
 Tbn. 1 *f*
 Tbn. 2 *f*
 Tuba *f* *mf* *f*
 Timp. *mf* *f*
 Bln. *f* *f* *mf*
 Chm. *f* *f* *mf*
 Perc. *mf* *f* *mf* *f*
 Hp. *mf* *f*
 Cel. *mf* *f*
 Vln. I *mf* *f* *mf* *f*
 Vln. II *mf* *f* *mf* *f*
 Vla. *mf* *f*
 Vc. *mf* *f*
 Cb. *mf* *f*

IV. The Throne

49

Picc. *f*

Fl. 1 *f*

B♭ Cl. 1 *f*

C. Bn. *f*

Hn. 1 *f*

Hn. 2 *f*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tuba *f*

Timp. *f*

Perc. *f*

Sus. Cymbal

Div. *ff*

Vln. I *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

Cb. *ff*

IV. The Throne

53

Picc. *mf* 6

Fl. 1 *mf* 6

B♭ Cl. 1 *mf* 6

C. Bn. *mf*

Hn. 1 *mf*

Hn. 2 *mf*

Tbn. 2 *f*

Tuba *mf*

Vla. *mf*

Vc. *mf*

Cb. *mf*

The musical score is for a section titled "IV. The Throne". It begins at measure 53. The instrumentation includes Piccolo, Flute 1, B♭ Clarinet 1, Contrabassoon, Horn 1, Horn 2, Trombone 2, Tuba, Viola, Violoncello, and Contrabass. The key signature has three flats (B♭, E♭, A♭). The time signature changes from 6/8 to 4/4 at measure 55. The Piccolo, Flute 1, and B♭ Clarinet 1 parts feature sixteenth-note runs starting at measure 53, marked with a forte dynamic (mf) and a sixteenth-note grouping (6). The Contrabassoon part has a steady eighth-note pattern. The Horns 1 and 2 play sustained notes. Trombone 2 and Tuba have sustained notes, with Trombone 2 reaching a forte (f) dynamic. The Viola, Violoncello, and Contrabass parts provide a rhythmic foundation with eighth-note patterns, marked with a mezzo-forte (mf) dynamic.

IV. The Throne

58

Picc. *f* *mf*

Fl. 1 *f* *mf*

B♭ Cl. 1 *f* *mf*

B♭ Cl. 2 *f*

Bsn. 1 *f* *mf*

C. Bn. *f* *mf*

Hn. 1 *f* *mf*

Hn. 2 *f* *mf*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tuba *f* *mf*

Timp. *f*

Perc. *f*

Vln. I *f* *mf* Unis.

Vln. II *f* *mf*

Vla. *f* *mf*

Vc. *f* *mf*

Cb. *f* *mf*

IV. The Throne

63

Picc. *f*

Fl. 1 *f*

B♭ Cl. 1 *f*

Bsn. 1 *mf*

C. Bn. *mf* *mf* *f*

Hn. 1 *mf*

Hn. 2 *mf*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tuba *mf* *f*

Timp. *f*

Perc. *f*

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f*

Cb. *f*

The musical score is for a section titled "IV. The Throne". It spans measures 63 to 66. The instrumentation includes Piccolo, Flute 1, B♭ Clarinet 1, Bassoon 1, Contrabassoon, Horn 1, Horn 2, C Trumpet 1, C Trumpet 2, Trombone 1, Trombone 2, Tuba, Timpani, Percussion, Violin I, Violin II, Viola, Violoncello, and Contrabass. The key signature is three flats (B♭, E♭, A♭) and the time signature is 2/4. Dynamics include *mf* (mezzo-forte) and *f* (forte). The score features complex rhythmic patterns with many sixteenth and thirty-second notes, often grouped with slurs and fingerings (3, 6). The Piccolo, Flute 1, B♭ Clarinet 1, Violin I, Violin II, Viola, Violoncello, and Contrabass all play similar melodic lines in measures 63 and 64, while in measures 65 and 66, they play sustained notes. The Bassoon 1, C Trumpet 1, C Trumpet 2, Trombone 1, Trombone 2, Tuba, Timpani, and Percussion play rhythmic patterns. The Horns play sustained notes.

IV. The Throne

68 $\text{♩} = 45$ C $\text{♩} = 132$ *Con spirito*

Picc. $fp \rightarrow f$ mf

Fl. 1 $fp \rightarrow f$ mf

B♭ Cl. 1 $fp \rightarrow f$

Hn. 1 $fp \rightarrow f$

Hn. 2 $fp \rightarrow f$ f

Tbn. 1 $fp \rightarrow f$

Tbn. 2 $fp \rightarrow f$

Tuba $fp \rightarrow f$

Timp. $fp \rightarrow f$

Perc. 68 Sus. Cymbal Bass Dr. $fp \rightarrow f$

Vln. I 68 $\text{♩} = 45$ C $\text{♩} = 132$ *Con spirito* $fp \rightarrow f$ mf

Vln. II $fp \rightarrow f$ mf

Vla. $fp \rightarrow f$ mf

Vc. $fp \rightarrow f$

Cb. $fp \rightarrow f$

IV. The Throne

72 Picc. Fl. 1 B♭ Cl. 1 B♭ Cl. 2 Hn. 1 Hn. 2 C Tpt. 1 Tbn. 1 Tbn. 2 Tuba Timp. Bls. Perc. Sus. Cymbal Hp. Cel. Vln. I Vln. II Vla. Vc. Cb.

IV. The Throne

D ♩=90 *Con fuoco*

B♭ Cl. 1

B♭ Cl. 2

C. Bn.

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1

Tbn. 2

Tuba

76

Timp.

76 Janissary Drums

Perc.

Crash Cym.

D ♩=90 *Con fuoco*

Vln. I

Vln. II

Vla.

Vc.

Cb.

The musical score is for a section titled 'IV. The Throne'. It begins with a rehearsal mark 'D' and a tempo of ♩=90, marked 'Con fuoco'. The score is written for a large orchestra. The woodwind section includes B♭ Clarinets 1 and 2, Contrabassoon, and Horn 2. The brass section includes Cornets 1 and 2, Trumpets 1 and 2, Trombones 1 and 2, and Tuba. The percussion section includes Timpani, Janissary Drums (starting at measure 76), and Crash Cymbal. The string section includes Violins I and II, Viola, Violoncello, and Contrabass. The score features various musical notations such as triplets, slurs, and dynamic markings like 'f' (forte) and 'ff' (fortissimo). A second rehearsal mark 'D' appears in the string section.

IV. The Throne

81

Picc. *f*

Fl. 1 *f*

B♭ Cl. 1 *f*

B♭ Cl. 2 *f*

Bsn. 1 *f*

C. Bn. *f*

Hn. 1 *f*

Hn. 2 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tuba *f*

Timp. *f*

Perc. *f*

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f*

Cb. *f*

IV. The Throne

85

Picc. *ff*

Fl. 1 *ff*

B♭ Cl. 1 *ff*

B♭ Cl. 2 *ff*

Bsn. 1 *ff*

C. Bn. *ff*

Hn. 1 *ff*

Hn. 2 *ff*

C Tpt. 1 *ff*

C Tpt. 2 *ff*

Tbn. 1 *ff*

Tbn. 2 *ff*

Tuba *ff*

Timp. *ff*

Perc. *ff*

Vln. I *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

Cb. *ff*

IV. The Throne

90 *accel.* E ♩=132 **Maestoso**

Picc. *fp* *f*

Fl. 1 *fp* *f*

B♭ Cl. 1 *fp* *f*

B♭ Cl. 2 *fp* *f*

Hn. 1 *fp* *f*

Hn. 2 *fp*

Tbn. 1 *fp*

Tbn. 2 *fp*

Tuba *fp*

Timp. *fp* *f*

90 *90* *Sus. Cymbal* *Tri.* *f*

Perc. *Bass Dr.* *fp* *f*

Hp. *f*

90 *accel.* *Div.* E ♩=132 **Maestoso** *Unis.*

Vln. I *fp* *f*

Vln. II *fp* *f*

Vla. *fp*

Vc. *fp*

Cb. *fp*

IV. The Throne

94

Picc. *f*

Fl. 1 *f*

B♭ Cl. 1 *f*

Hn. 1 *f*

Hn. 2 *f*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tuba *f*

Timp. *f*

Bls. *f*

Chm. *f*

Perc. *f*

Hp. *f*

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f*

Cb. *f*

IV. The Throne

98

Picc. *mf*

Fl. 1 *mf*

Ob. *mf* *mf*

B♭ Cl. 1 *mf* *mf* *mf*

B♭ Cl. 2 *mf* *mf* *mf*

Bsn. 1 *mf* *mf*

C. Bn. *mf*

98

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1 *mf*

Tbn. 2 *mf*

Tuba *mf*

98

Timp.

Bls.

Chm.

98

Perc.

98

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

Cb. *mf*

IV. The Throne

105

Picc. *mf*

Fl. 1

Ob.

E. Hn. *mf*

B♭ Cl. 1 *f*

B♭ Cl. 2 *f*

Bsn. 1

C. Bn.

Hn. 1 *mf*

Hn. 2 *mf*

C Tpt. 1 *f*

C Tpt. 2 *f*

Tbn. 1

Tbn. 2

Tuba

Timp. *mf*

Bls. *mf*

Chm. *mf*

Perc. *mf* *f* Sus. Cymbal

Hp.

Vln. I *Div.*

Vln. II *Div.* *Unis.*

Vla.

Vc.

Cb.

IV. The Throne

112 $\text{♩} = 120$

Picc. $\text{♩} = 120$

Fl. 1

Ob.

E. Hn.

B. Cl. 1

B. Cl. 2

Bsn. 1

C. Bn.

Hn. 1

Hn. 2

C Tpt. 1

C Tpt. 2

Tbn. 1

Tbn. 2

Tuba

Timp.

Bls.

Chm.

Perc.

Sus. Cymbal

Hp.

Unis.

Vln. I

Vln. II

Vla.

Vc.

Cb.

Div.

Div.

107

IV. The Throne

118 $\text{♩} = 132$

Picc. fp f

Fl. 1 fp f

Ob. fp f

E. Hn. fp f

B♭ Cl. 1 fp f

B♭ Cl. 2 fp f

Bsn. 1 fp f

C. Bn. fp f

Hn. 1 f fp f

Hn. 2 f fp f

C Tpt. 1 fp f

C Tpt. 2 fp f

Tbn. 1 fp f

Tbn. 2 fp f

Tuba fp f

Timp. fp f

Bls. fp f

Chm. fp f

Perc. $Tri.$ fp f

Hp. fp f

Vln. I fp f

Vln. II fp f

Vla. fp f

Vc. fp f

Cb. fp f

Unis. fp f

VITA

Christopher McCardle was born in Metairie, Louisiana in 1979. He received a Bachelor of Music in Percussion Performance from Northwestern State University in Natchitoches, Louisiana in 2001. He served as Associate Director of Bands at high schools in Texas and Louisiana before receiving a Master of Music from Northwestern State in 2007, where he wrote his master's thesis, "An In-Depth Study of Tim Huesgen's *Trilogy*, Solo Work for Four-Mallet Vibraphone." Christopher served as an Adjunct Professor of Music at Northwestern State before beginning his doctoral studies at Louisiana State University in music composition. He is currently the CEO of Chimerical Collective, LLC- a virtual reality software development company and the CEO of McCardle Bros. Music, LLC- a music production software company.